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MEDICAL NEWS.

EDITED BY

J. A. THACKER, A. M., M. D., F. R. M. S., LOND.

Fellow of American Academy of Medicine, *Etc.*

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THE CINCINNATI MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

Some New Remedies in the Local Treatment of Skin Diseases.

BY JOHN V. SHOEMAKER, A. M., M. D., PHILADELPHIA, PA.

At the last meeting of the State Medical Society I called attention to "some important topical remedies, and their use in the treatment of skin diseases." Since that time I have been enabled to make further practical observations upon some additional preparations, which I bring forward in this paper.

Oleic Iodoform, the first medicinal remedy that I shall consider, is prepared by dissolving about twenty-four grains of iodoform in oleic acid. The preparation thus formed is a yellow oily liquid, with a very slight odor of iodoform. The strength of the solution should be five per cent., or about twenty-four grains of the iodoform to the ounce of oleic acid. Should the amount of the iodoform be increased, it will recrystallize from its warm solution, and will not add any additional therapeutic action to the remedy. As far as I have been able to learn, I believe that I have been the first to use these two preparations in combination. I have had this oleic iodoform prepared in the above manner by Dr. L. Wolff, of Philadelphia, and have used it for some time with both marked and beneficial results. It is an exceedingly valuable remedy, and possesses many advantages over iodoform dissolved in either lard, alcohol, ether, chloroform, or the fixed and volatile oils. The great advantages that this combination has over other iodoform preparations are as follows:

First, it never becomes rancid, like ointments, neither will it evaporate like spirits and ethereal combinations of iodoform.

Secondly, the oleic acid removes very much the disagreeable smell of the iodoform.

Thirdly, the oleic acid will not in any way destroy the identity of the iodoform, but will much enhance its value by the combination. Abundant therapeutic experiment has already shown that the local action of iodoform has been to heal and soothe the parts upon which it is applied. The addition of the oleic acid with its active solvent power, and its ability to penetrate deeply and rapidly into the animal textures, will render the iodoform far more active and effective in many skin diseases.

Fourthly, oleic iodoform not only possesses great penetrating and absorbing power, which manifests itself in prompt remedial action, but it is also one of the most economical and cleanly preparations that can be applied to the skin. It is an economical preparation, as a very few drops suffice for its remedial action, and one should always recollect this fact, and should never prescribe more than one or two drachms at one time. It is also remarkable as a cleanly agent; for, by its rapid absorption into the tissues, it will not stain the linen, as most ointments do.

Oleic iodoform should not be rubbed in like ordinary spirits, liniments or ointments, but should be lightly brushed over the surface with a camel's hair-brush.

Oleic iodoform, applied to the unbroken skin, produces slight stimulation; but when used upon ulcers and abrasions of the mucous membrane, it acts as a decided astringent. If brought in contact with discharging surfaces, and luxuriant granulations, it will check all secretion by contracting the vessels, condense the tissue, coat over the parts by precipitating the albumen, and so protect them from the injurious action of the air. This combined stimulant and astringent action of this preparation, renders it a useful application in a variety of skin affections.

In scrofulous disease of the skin, it is a most valuable adjunct in the treatment. When the glands are involved, and the oleic iodoform is applied over the surface, the stimulating and penetrating action of the combination assists rapidly in reducing them to their normal size. In another class of strumous subjects, in which the lymphatic

ganglions suppurate, break down, and form scrofulous ulcers, which give exit to unhealthy and fetid pus, the application of the oleic iodoform assists in checking the formation of the pus; acts as a disinfectant by destroying all the odor; speedily reduces the abnormal state, and largely adds to the cure of the disease.

Oleic iodoform is also valuable in stimulating granulation and the hardened edges of chronic ulcers of the limbs and back, and likewise restrains and deodorizes the discharges of the part. In boils and carbuncles, the free application of the oleic iodoform, before suppuration sets in, will lessen the pain, and at times will cause them to abort. After an incision has been made in a carbuncle, the use of the oleic iodoform will overcome any noxious odor from the part, and will hasten the process of repair.

In psoriasis of the head, where one finds the scalp covered with a good crop of hair, the best application that can be used is oleic iodoform, which acts effectually in connection with the proper internal remedies. By rubbing this preparation of oleic iodoform thoroughly into the scaly patches of psoriasis of the scalp, it is quickly absorbed, and is far preferable to the various ointments which largely remain on or in the hair, and are either brushed off on the covering of the head or drop down on the neck.

Oleic iodoform can also be used with great benefit in functional diseases of the sweat glands. Thus I have employed it with decided advantage in the profuse secretion of sweat from the axillæ, the palms of the hands, the genito-crural folds, the fundament, and the soles of the feet. Again, its use in that disease in which the odor of the perspiration of the parts just named becomes offensive, both to the patient and those around, not only causes the odor to disappear, but often arrests the diseased condition itself.

In addition to the above observation, I have also found a combination of the oleate of mercury with iodoform to be of very great advantage, especially in the local treatment of syphilitic affections of the skin. This combination can be made by adding about twenty-four grains of iodoform to the ounce of oleate of mercury, which gives a yellowish liquid with a very slight odor of the iodoform. The oleate of mercury with iodoform is markedly serviceable when syphilis affects the mucous surfaces, often cur-

ing this obstinate form when other remedies have been tried in vain. For example: I have used this combination in a large number of cases of syphilitic ulceration of the tongue, in which the organ has been enlarged and its surface covered with tubercles, ulcers and fissures, with most decided success, after other remedies had entirely failed. I generally pencil with the preparation the surface of the organ twice a week, and am convinced of its value in these harassing cases by the repeated good results I have witnessed by its use. The same combination is very beneficial in pityriasis, especially of the hairy parts of the body. It is one of the best parasiticides, and is useful in favus, tinea tonsurans, .eczema marginatum, and tinea versicolor. In using it in this latter affection, the surface should always be washed with soap and water preparatory to its application; and, after repeated use, it will be found that the itching will cease, and the fawn-colored, dry and branny scales will gradually lessen, until all traces of the disease have disappeared.

The oil of ergot, the next remedial agent that I shall refer to, came under my observation in the following curious manner: Eight or nine months since, while conversing and examining with Dr. Wolff, of Philadelphia, in his laboratory, some *medicated soaps* and *oleates*, I was attracted to an *oily* liquid that stood on one of his tables, and, upon inquiry, I was informed that it was a refuse material known as oil of ergot. Dr. Wolff, at the same time, offered to send some of this oil to the dispensary, and added that I might find it useful in some skin affections. The preparation was accordingly sent, and after using it for some months, I was agreeably surprised to find most decided benefit in its use for a number of cutaneous diseases. Since using the oil of ergot, I have carefully searched the various therapeutic works and the different journals, and have failed to find any one who has previously made any observation upon its external use.

The oil of ergot has long been known as one of the principal ingredients of the ergot. As found in the laboratory of the chemist, it is the waste material that has been left after preparing the various ergot preparations. If specially prepared, it can be made by the addition of benzine to ergot by the process of displacement, and afterwards allowing the benzine to slowly evaporate. When obtained from recently collected grains, it has a

reddish-brown color, and about thirty-five parts of it are present in every hundred parts of ergot. It is a moderately thick, non-drying, fixed oil, and contains resin, cholesterol and lactic acid. It has a slight odor of herring pickle, an acrid taste, and is soluble in both alcohol and alkaline solutions. As a local remedy, this refuse oil is much cheaper than any of the other oils and fats; and contains, in addition to its fixed oil, other ingredients that make it a most important therapeutic agent. When applied to the skin, it has a protective, soothing and astringent action, and by its absorption frequently assists in nourishing the diseased part.

Excellent results can be obtained by using the oil of ergot in the acute variety of eczema. Particularly is it valuable in that form in which the part is hot, tumefied, and covered with small vesicles, some of which have burst, and the fluid coming in contact with the surrounding parts has caused considerable irritation. If the oil of ergot is painted over the surface in such a condition, it will exclude the air, allay the itching, constringe the engorged capillaries, moderate the weeping of the part, and prevent the formation of crusts upon the diseased surface. It is a most useful application in eczema of the lips, in which the surface is tumefied and fissured, and readily bleeds upon the slightest movement of the parts. It is also efficacious in cracked nipples. Pieces of cotton saturated with oil of ergot, and placed over the lips or the nipples for a short time each evening before retiring, generally arrest the diseased state. The oil of ergot is a most important remedy in herpes of the genitals. Applied either with a brush or a piece of cotton in this affection, it allays the red, swollen, smarting and burning sensation of the parts by its soothing and astringent action.

Few remedies are so efficacious as oil of ergot in checking the formation of scales in seborrhœa of the scalp and other hairy parts of the body. If there be an accumulation of scales and sebum upon the scalp, and the hairs be parted down to its surface, the free use of this oil will bring about the most happy results. In a number of instances, I have witnessed the efficacy of this remedy used in the following manner: I direct the patient at night-time, just before retiring, to pour a quantity of the oil of ergot upon the scalp, and to rub it in thoroughly until all the masses of sebum become soft and loose, and

the surface is saturated with the oil. The head should then be protected by either an *oiled silk*, muslin or flannel cap, or a bandage, in order to prevent the oil from soaking through and soiling the bed linen. In the morning the dressing should be removed, the scalp covered with a copious lather of soap, and afterwards washed out with warm water, so as to get rid of all the loose masses of sebum. The patient should next dry carefully the surface with towels, and again rub into the scalp a small quantity of the oil of ergot, as a hair oil. This preparation is to be preferred for this purpose to either olive, almond, or any of the bland oils, both for its cheapness and for its medicinal activity upon the diseased state of the scalp. It not only overcomes mechanically the condition of the parts, but likewise arrests, by its soothing and astringent action, the dry and lustreless state of the hairs and the deadened appearance of the scalp. This twofold purpose that the oil of ergot fulfils, makes it superior to all other medicinal preparations that are used for seborrhœa sicca at the present time. In using the oil of ergot for seborrhœa sicca of the scalp where a stimulating action was indicated, I have sometimes added one or two ounces of alcohol to three or four ounces of oil of ergot, and applied it in the same manner over the surface with the most beneficial results.

The effect of the oil of ergot in seborrhœa of the genitals in both sexes is just as conspicuous. It should, however, when used in this part of the economy be penciled over the surface, or applied with a piece of cotton, on account of the delicate condition of the mucous membrane of the parts. If used in the above manner, it will soften up the whitish cheesy masses which collect about these parts, check decomposition and bad odor, and arrest all red, hot and irritable conditions of the surface.

Oil of ergot is also of great service as a local application in erysipelas. Brushing frequently the surface in this disease with oil of ergot relieves, by its soothing and astringent action, the tender and hot sensation, and causes the puffy, dry and glazed appearance to abate.

In rosacea, or an enlargement of the bloodvessels and tissue of the face, after making punctures over the patches with a needle knife, and allowing the surface to bleed freely, the application of the oil of ergot will soothe the

part, constringe the bloodvessels, and thus modify very much the diseased action.

Before concluding these remarks upon oil of ergot, I should add that I have found it equally efficacious in various affections of the mucous membrane. In catarrh of the nasal passages, I have saturated a piece of cotton with the oil of ergot, and applied it by means of a probang, with the most beneficial results.

Applied with a piece of cotton in ulceration of the cervix uteri, the oil of ergot has acted with great promptness. In gleet, I have had some marked cures from its use by passing the catheter and injecting the oil far back into the *urethra*. In both leucorrhœa and gonorrhœa I have used from two drachms to one ounce of the oil of ergot, made into a six-ounce emulsion, and had it injected night and morning, in a number of cases, with marked success.

I have, in concluding this paper, simply mentioned the local use of the oil of ergot in other affections of the mucous membrane not properly belonging to the title of my paper. I hope, however, before long to hear from some of my professional brethren further concerning the local use of this valuable preparation, that has, previous to my observation, been cast aside as refuse material.

Precautions, previous to, or during Surgical Operations,
with Reference to the Avoidance of
Putrefaction.

BY DAVID PRINCE, M. D., ILLINOIS.

Two conceptions are at the base of the precautions against the putrefactive complications which retard the healing of wounds.

One is the seclusion from the surfaces, of the causes of putrefactive fermentation, whether these causes be supposed to be organic germs or chemical agencies. The other is the preservation of the power of resistance of the exposed wounded surfaces.

It would seem, from abundant observation, that the contact of the atmosphere with its load of ferment will, in one case, result in a putrefactive action, while in another case in the same atmosphere, union by the first intention

will take place. The reason why the wounded surfaces in the latter case adhere, and in the former case they do not, must lie in the wound itself. One is prepared to become the seat of putrefaction and the other not. The reason why wounds of the face are in less danger from septic influences than parts more distant from the circulating center, is the greater vascularity of the tissues, and the more rapid production of organizable exudations.

The new formed tissue has under it in the latter case an abundant vascular support, enabling it to resist the influence of destructive agents.

The nutritive processes being slower in the extremities, there is a necessity for keeping guard against septic intruders, until the new surfaces have acquired sufficient power of resistance.

1. The first preventive is the absence of an atmosphere containing an infection of erysipelas, septic fever or hospital gangrene.

2. The second preventive is the cleanliness of the cutaneous surfaces of the parts to be operated upon, and of the sponges, instruments and fingers of the surgeon and his assistants.

The surface may be washed with carbolized water, or, when it is not intended to apply plasters, they may be smeared with carbolic acid ten per cent. in oil. The sponges may be soaked in a saturated solution of carbolic acid, the instruments dipped in 95 per cent. carbolic acid or in a strong carbolized oil, and the fingers cleaned with a nail brush and dipped in carbolized water or smeared with carbolized oil.

The neglect of these precautions endangers the introduction into a wound of those agents which may originate putrefaction and erysipelas. Mr. Lister dwells especially upon the danger of introducing into gunshot wounds septic ferment by the employment of the finger in explorations.

3. The third preventive is that of nature, which secures the covering of the wounded surfaces with a blood clot. If this is wiped away only at the last moment before bringing the lips of the wound together, the surfaces are exposed to the air for the briefest period of time for the lodgment of offensive material; and the wound has the shortest possible period for those alterations, which take

place in connection with the evaporation of the moisture of the surfaces.

4. The fourth preventive is the water applied to the surfaces in connection with the removal of blood. Anything deposited from the air is likely to be washed away, and the surfaces are subjected to evaporation during the briefest period possible.

To this end a stream of water flowing over the wound for a brief period is calculated to carry away suspicious deposits.

Ice applied for the purpose of averting hemorrhage by the contraction of the vessels, unavoidably works toward the same end by producing a watery flow as it melts.

A watery spray tends to precipitate and wash away atmospheric dust, and to dilute any chemical agent afloat, while the surface is at the same time kept from drying.

5. The spraying of the wound with ether, though it may be done with the primary intention of producing cold and contracting the vessels, secures a deposit of a portion of the aqueous vapor of the atmosphere, bathing the part with a dew saturated with ether, serving not only to wash over any foreign substance, but by the action of the ether, to destroy the vitality of any animal or vegetable substance already developed out of the germ state. Ether is entirely harmless to a wounded surface, and on this account it is always a good application to favor union by adhesion.

John Johnson, a healthy young man, aged 17, was, in the year 1866, injured in the middle third of the thigh, which was crushed under a car wheel, rendering a high amputation necessary. This was done in two flaps.

The vessels were all secured by accupressure, according to Simpson's third method (by which the artery is compressed) by a needle on one side and on the other by a wire looped over the point of the needle—brought over the artery and twisted around the needle at its heel. By this means the needle can be drawn out first and the wire afterward.

Before bringing the lips of the wound together, they were very freely sprayed with ether. I take a paragraph from my notes, made at the time. "The nebulizing apparatus was employed with a very satisfactory result, using ether as a cooling agent. I had previously settled

the fact, that ether is no impediment to union by the first intention. Ether favors union by arresting capillary hemorrhage, and favoring the early establishments of the exudation of organizable lymph. The parts were brought together and secured by sutures of iron wire deep and shallow, leaving two inches of space open at the lower end of the incision for drainage; after which the stump was firmly bandaged, to secure close coaptation and immobility of surfaces." "Very little drip followed, and though the patient had a localized pneumonia following the injury, he rode in a buggy on the 25th day to a photograph establishment, and by means of crutches helped himself up stairs."

Reasoning upon the good results that have followed the spray of ether, it has been conceived that they are not owing chiefly to the reduction of temperature, but in great part to its power of preventing putrefaction. From this theory comes the practice of pouring ether upon and into wounds immediately before closing them, in cases in which it is not convenient to employ the spray. By the use of ether in spray, or by pouring it upon incised or lacerated surfaces, the parts are cooled, and they are moistened by precipitation from the air. Organic agents are brought in contact with a fluid unfriendly to their continued vitality.

The combination of carbolic acid, iodine, and other antiseptics with the watery spray, is supposed to precipitate or destroy living floating agents, and to make the surfaces upon which the precipitated spray falls non-receptive of poisonous invaders.

That this latter result is the one upon which the safety in part depends is rendered probable by the consideration that the atmospheric ferment is not destroyed by any agent which the surface can tolerate, nor by a temperature much below that of boiling water, nor even by a high temperature, without a continuance of the heat through a considerable period of time. In the art of canning fruit, it is found that for some varieties, as for green corn, several hours' continuous boiling is necessary to prevent fermentation after sealing in air-tight receptacles.

It can not, therefore, be that the atmospheric ferment, whether it be chemical or organic, is decomposed or destroyed by such a weak agent as a spray of a watery solution of carbolic acid or a solution of iodine or of any

other substance capable of being tolerated by the surface which it is intended to protect. If these hypothetic agents, chemical or organic, are not destroyed, they are precipitated upon the surfaces, and that too in as great quantity, as if they were conveyed in the dry state by dry air.

That the septic sequences in wounds depend more upon the condition of the exposed surfaces, than upon the brief presence of air, is rendered probable by the fact, that in hypodermic injections a minute portion of air is often pushed in from the syringe after the injected fluid, and yet, a septic result is extremely rare.

The areolar tissue becomes infiltrated with air on a large scale in emphysema following solution of continuity in the walls of the air passages; the skin being blown up and distended to a great degree, and yet there is such exemption from any inflammation or toxic sequence, that the possibility of such a result rarely enters the mind of the practitioner. In these instances, the surfaces are not dried, and the preparation for sepsis is not made. The seeds may be in the air which is introduced, but like seeds in the ground, they wait for an exposure at the surface, with favorable conditions.

The lesson from this consideration is not to permit surfaces to dry under direct exposure. In this view, assiduous sponging during the progress of an operation removing the clot from the surface, is not good practice.

On the supposition, that the moisture acts upon the exposed surface to make it non-receptive of the atmospheric ferment, the explanation lies chiefly in the protection of the surfaces from dying and the albuminous exudation from that incipient step toward decomposition which attends the evaporation of a portion of its water. While the presence of a weak combination of an antiseptic can do no harm, it is well to have an appreciation of the value of moisture as such.

6. Immersion. This leads to the mention of the plan of operating under water, or in such circumstances that the part under treatment can be kept under water as much of the time during an operation as is compatible with the operative procedure. This most effectually prevents the drying process and the attendant aptitude of the serous membrane, or of the raw surfaces for the septic or putrefactive process.

The water alone can not keep away the septic ferment, for it has been shown by Lister, Tyndall, and other observers, that water will set to work the process of decomposition, when added to substances otherwise protected by subjection, first to heat, and afterward sealed or permitted the contact of air filtered through cotton or purified by the settling of its dust so as to be free from its floating ferment.

The protecting effect of simple water must therefore be in preserving the exposed surfaces from that aptitude for putrefaction, which consists in drying. The addition of carbolic acid and salicylic acid to the water for a period no longer than may be necessary for a surgical operation, may destroy bacteria in the developed state, but it can have little effect upon the ultra-microscopic germs, which (upon the germ theory) are to be dreaded.

While speaking of immersion, the case of the exposure of the peritoneum must be mentioned. This is a surface which, in the natural state, is perpetually bathed in a moist secretion, so watery as to be changed in its physical character by evaporation, and so small in amount as to permit of an injurious drying by a short exposure to a dry atmosphere. It is not protected during an operation by a blood clot, as is the case on incised surfaces. Hence the necessity for special care to avoid the drying influence of atmospheric exposure upon serous membranes. On the chemical theory of septic fermentation, the observations already referred to, make it certain that the destruction of the supposed chemical ferment is equally difficult with the destruction of the supposed organic ferments, so that it makes no material difference whether the germ theory or the chemical theory be adopted; both theories being equally hypothetic and the practice empirical.

The germ theory has the advantage in this, that it has been proved that the ferment can be sifted out of the air by simply passing it through cotton wool, and that being heavier than air, it will settle, if, as in a tight box, the air can be kept still for a few days. It is therefore not a gas, as would be supposed if chemical, but a substance which will adhere to the fibers of a cotton mesh, and settle to the bottom of still air.

That putrefaction is the chief cause of the bad behavior of wounds is proved by observation, and admits

of no shadow of doubt. The resulting surgical fever which was formerly supposed to be owing to the contact of oxygen, is now believed to be owing to the irritation of putrid pus upon the surfaces, and its absorption into the blood.

The proof that putrefaction depends upon minute organisms, or infusoria, the germs of which are ultra-microscopic or discoverable only by lenses of the highest power, is so far proved as to have become the scientific opinion of the age. It is pretty well made out that these germs are kept floating in the air by its currents, and that still air, contained in a closed box, drops them to the bottom. It is also pretty well made out that they adhere to the meshes of substances containing small spaces, as is the case with cotton, so that air passing through thin spaces becomes free from these germs, and from all kinds of dust.

The proof of this absence of dust of all kinds, is the absence of the power of dispersing light. A beam of light is sent through opposite openings in a box containing air purified by filtration through cotton, or by settling for several days, while the observer looks across the beam, through another opening, so that the line of vision is at an angle with that of the beam of light. If the air is free from dust nothing is seen: while floating particles are seen, not individually, but as the appearance of mist. The blueness of the sky is attributed to minute dust floating in the air, too fine for discovery by the microscope. Air flowing over Mount Blanc is said to be nearly free from this dust, and therefore unapt to excite putrefaction.

If it is impossible to destroy this ferment and impracticable to have an atmosphere altogether free from it, in which to work, a large measure of our precaution must be directed to the prevention of susceptibility in the wounded surfaces.

It has been said that bacteria have been found when there was no smell or other evidences of putrefaction, and that on the other hand putrefaction has been found where bacteria could not possibly be found unless they or their germs perforated the tissues.

Billroth inclines, on the ground of his investigations, to the belief in the presence of minute organisms in the healthy body in a latent condition. According to this

view, they will be brought from behind to the surface of the wound, and will find, in the secretions to which air has had access, matter fitted for their activity.

In reference to this question, Thiersch says:

"I agree with those who believe that the action of the atmospheric ferments furnishes the preliminary for sepsis, hospital gangrene and pyæmia. I assume that by chemical decomposition under the influence of the ferments, poisonous matters are set free, and that the ferments are not poisonous."

In opposition to the significance attached to the presence of bacteria where there is no putrefaction, it is claimed that there are different kinds according to the different chemical actions which they excite and accompany.

Mr. Lister, in his lecture before the International Medical Congress in Philadelphia, in 1876, referred to experiments by himself, in which the bacteria found in connection with the souring of milk were of a different form from those found in connection with putrefaction.

He claims that bacteria found under antiseptic dressings, where there is no odor of putrefaction, are of a kind which do not generate putrefaction. The same may be said of those which are reported to have been found in the blood and in places inaccessible to air.

The claim has been made that the offensive smells of chronic abscesses situated in the neighborhood of the intestines, is not owing to the putrefaction, but to the transfer of chemical combinations from the interior of the intestines during life, in the same manner in which the flesh of animals is spoiled by becoming the receptacle of odorous emanations, being rendered in this manner unfit to eat, if the intestines are not soon enough removed. This is not supposed to be putrefaction, but a gaseous absorption and transfer from the intestinal tube to the tissues of the neighboring parts, and to collections of pus.

A case in illustration occurred in the practice of the writer, in which an abscess in the abdomen, simulating a full bladder, was aspirated, and a quart of exceedingly offensive pus evacuated. Upon the supposition that this pus was in a state of putrefaction, it was supposed that the abscess would refill, but it did not. The unevacuated pus must have been absorbed. The fluids and gases of

the intestinal tube must be antiseptic from the long preservation of retained feces, and the odor thus derived must have another meaning than that of putrefaction.

So of the odor of internal abscesses connected with bone which often exhibit a very offensive smell when opened. It requires a re-examination of the subject to settle the question whether this odor is dependent upon putrefaction. The smell is different from that of open air putrefaction of pus, and the attention of observers is called to the question of its character.

Whatever may be said of the germs which are supposed to be the incipient condition of all that is offensive in wounds, and whether or not it may be possible to avoid them, or to destroy them, the way is now plain with regard to the subsequent treatment of wounds into which germs have entered, or into which it is feared that they may enter.

We have only to employ a solution of an antiseptic of sufficient strength to be inimical to bacteria in the developed state; or on the chemical theory, inimical to the continued and complete reproduction of the ferment. A solution of such a degree of feebleness as to be friendly to the tissues of an injured or wounded part, may be death to the microscopic beings that have to live in it, or destructive of the chemical changes necessary to the developed condition of the putrefactive fermentation. The spray meets an important indication to prevent this dessication, but immersion meets it better.

Before opening the peritoneal cavity, the patient may be laid in a bath of water of the temperature of 100° F. with chloride of sodium sufficient to bring the water near to the density of serum, in order to prevent injurious osmotic action, with a small addition of salicylic and carbolic acid, to have an effect to destroy developed bacteria. Across the bath tub and under the trunk of the patient should be stretched a wide towel, two yards in length, with a cylindrical attachment of wood at each end, which may conveniently be made of a broomstick. Each of these ends should be placed in the hands of an assistant, and by this towel the trunk is to be raised from the water at any moment. As the water becomes opaque from the presence of blood, the trunk is raised so that the surface of the abdomen is out of the water for the briefest period compatible with the amount of seeing necessary for the

operative procedure. The fluid is friendly to the peritoneal surfaces, and it is not important that it should all be removed before the final dressing, as it will speedily be absorbed. In addition to the antiseptic advantages of this immersion may be mentioned the avoidance of the adhesion of a blood clot to the peritoneal surface. As the blood flows in the water it becomes diffused to a degree incompatible with the formation of a dense and adhesive clot. The wiping of the peritoneal surfaces with sponges is avoided. The peritoneal surfaces are protected from being cooled by the contact of air, which will almost unavoidably be at least fifteen degrees lower than that of the blood. The heat of the extremities will at the same time be kept up to that of the water in which they lie. The reduction of the temperature, one of the chief causes of shock, will thus be avoided.

In this connection it is convenient to quote from Prof. Weber, who, in a lecture before an association of naturalists and physicians at Giessen, Prussia, in 1864, recommended the performance of paracentesis of the thorax with the part submerged in salt water. "In the clear salt water it could be seen how the pus escaped during the expirations, and how the salt water entered during the inspirations, to wash out the pus in the next expiration."

TEMPERATURE.—During the conduct of an operation, or in the first dressing of injuries, the depressing influence of the extensive and prolonged application of cold must be avoided. It has been settled by observation, that heat is more successful in arresting hemorrhage than cold, so that it becomes good practice to finish the preparation for dressing by the application of heat.

It is suggested that immediately before closing the wound in which it is desired to have union by the first intention, the clots should be cleaned away by sponges taken from water as hot as can be borne by the hand without decided discomfort, or at a temperature of about 120° F.

Sponges of sufficient number or size should be employed to cover all the surrounding surface at once, and they should be held in close contact with the incised or lacerated surfaces about two minutes, and, on their removal, the wound should be finally closed. If the wound should be opened on account of any suspicion of bleeding,

the same process of the application of hot sponges should be repeated.

By this process all oozing of blood from vessels too small for torsion, pinching, acupressure, or ligature, immediately ceases, and the surfaces are ready to be bathed in a colorless plastic exudation on being placed in contact in the final dressing.

In the subsequent management of the wound, the safest rule in relation to temperature is the comfort of the patient, and in cases in which the sensation has been annulled by the failure of nerve communication, the preservation of the natural temperature of the body is the safest guide.

The use of a thermometer with a flat bulb for application to the surface is convenient in determining the temperature of the part. The stem is wrapped with cotton, both to prevent the dissipation of heat, and to afford the means of holding the thermometer in position without exerting pressure upon the bulb. The bulb must necessarily be so thin that pressure upon it will cause the mercury to rise too high in the stem, and vitiate the reading of the temperature.

It is usually desirable that the application of heat or cold should be uniform, and not by fits.

For the application of heat, substances that are poor conductors, or hot water surrounded by poor conductors, or a stream of warm water through a coiled rubber tube, will serve the purpose, with occasional renewal.

For the application of cold, the surrounding of an ice bag with poor conductors diminishes the tendency to fluctuation, at the same time diminishing the intensity^{*} of the cold. The use of the coiled tube, conveying a perpetual stream of water, generally of the temperature of the room in which the patient lies, and gauged as to the quantity passing, secures a difference in temperature between the coil and the body of from 20° to 30° F., with a capability of varying the rapidity of the abstraction of heat by changing the height of the bucket or other reservoir, or of varying the orifice of exit of the water.

For the application of heat or cold with moisture, the open irrigation, the immersion and the poultice come into requisition.

Michigan State Board of Health.

[Reported for the CINCINNATI MEDICAL NEWS.]

THE regular meeting of this Board was held at Lansing, July 12, all the members being present, as follows: Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, of Pontiac; Henry F. Lyster, M. D., of Detroit; J. H. Kellogg, M. D., of Battle Creek; Arthur Hazlewood, M. D., of Grand Rapids; John Avery, M. D., of Greenville; and Henry B. Baker, M. D., Secretary.

Hon. Le Roy Parker was elected President of the Board for the ensuing two years.

SMALL-POX.

Dr. Jacokes spoke of an immigrant tramp-burglar who came down with the small-pox while confined in the jail at Pontiac. He and another prisoner in the jail were removed to the temporary hospital. The prisoner stole the clothes of the immigrant, and leaving his own, ran away. Some one then stole the prisoner's cast-off clothes and bedding, after supposed disinfection, and by this means small-pox was communicated to more than sixteen persons. He also reported that a second immigrant brought small-pox near Pontiac, but the disease was restricted.

Dr. Kellogg reported that an immigrant, sick with small-pox, had recently been put off a M. C. R. R. train at Battle Creek. He remained about the depot all day before it was discovered that he had small-pox. He was then removed to a tent-hospital.

Dr. Avery reported an outbreak of small-pox apparently brought by an immigrant Dane, who was vaccinated and not sick himself, to a camp in Montcalm County. The immigrant slept with and gave the disease to a countryman who was vaccinated before his arrival in this country six years ago. The disease was light, the man not being confined to his bed at all; and, finally, he went to a family of five unvaccinated persons, all of whom had the disease lightly. There were other cases in the neighborhood coming from the same source. The immigrant probably brought the contagion in his clothing from some infected city or immigrant on the journey, as he said there was no small-pox on board the ship on

which he came, though there were cases of diphtheria on board.

A communication was received from the American Public Health Association, asking the influence of this Board to secure legislation making it a criminal offense for any person to communicate any communicable disease, such as small-pox, scarlet fever, or venereal diseases; and giving to boards of health and health officials the same power in the prevention and suppression of other diseases, as they now possess in cases of small-pox.

The Secretary presented a resolution of the American Public Health Association, asking the Michigan Board to use its influence to secure general vaccination.

THE CHICAGO SANITARY CONFERENCE.

By direction of the Board, the Secretary had attended the conference of delegates from local and State boards of health, held at Chicago, June 29, for the purpose of devising means for preventing the introduction of small-pox and other diseases by immigrants. As secretary of the conference, he had prepared an official report, and sent it to the National Board of Health for publication in its bulletin.

The action of the sanitary conference, to prevent the spread of small-pox, was indorsed, and

RESOLUTIONS WERE ADOPTED,

Requesting the National Board of Health to secure, if possible, the vaccination of immigrants before they land in this country; asking the attention of every local board of health in Michigan to the details of the plan adopted at the late Chicago conference; calling upon them to secure careful inspection of all immigrants entering and remaining within their jurisdiction, and a prompt vaccination or revaccination, with pure and fresh bovine virus, of all persons not protected against small-pox; calling attention to the need of establishing a quarantine at Port Huron; also, asking the National Board of Health to aid in preventing the introduction of small-pox and other communicable diseases by immigrants landing at Eastern ports.

Dr. Baker read resolutions of the Tennessee State Board of Health, indorsing the action of the Memphis Board of Health, commending the inspection service of the National Board of Health as being very much more effective

than local quarantines, with less detention and annoyance to commerce.

VACCINATION FOR VARIOUS DISEASES.

Dr. Lyster, committee on epidemics and other diseases, read a translation of two important papers recently published in France, on the causation of certain communicable diseases, which gave details of successful methods of making viruses which can be used in vaccination, and are effective in preventing deaths from these diseases. He received the thanks of the Board, and was requested to embody his remarks, and so much of the translation as was essential, in a paper for publication.

Dr. Baker had paid some attention to the same subject in connection with diseases of animals, affecting the public health. He mentioned a paper by Prof. Law, of Cornell University, suggesting that these protective viruses all seemed to be made in accordance with a general law, namely: by their cultivation in fluids with access of free oxygen; and this gives us great hope of soon being able to make protective vaccination for many of the most dangerous diseases in animals and mankind.

Dr. Baker reported the investigation of an outbreak of a new disease in England, traced to the eating of American hams. The cause of the disease proved to be a virus which was used to inoculate animals of various kinds and reproduced the same disease in them. From the accounts, it seems probable that it is no more nor less than our hog cholera. The symptoms closely resemble, in some respects, the disease known last winter in this country as "winter cholera."

SANITARY ASSOCIATIONS.

Dr. Jacokes referred to the Pontiac Sanitary Association, and the work it was doing for public health in that city.

Dr. Kellogg reported the formation of a sanitary association at Battle Creek, as a fruit of the recent sanitary convention held there by this Board. Among the subjects brought before the association was that of impure water. He had examined a sample of water used at an eating-house, among the boarders at which there were seven cases of typhoid fever last year. It contained a large amount of organic matter. Also, a sample containing organic matter and a large amount of chloride of

sodium, used by a family in which there had been much illness.

The request of the sanitary convention at Battle Creek, that this Board issue a circular on criminal abortion, was referred to Dr. Kellogg as special committee.

FUTURE PUBLICATIONS.

Drs. Lyster and Baker reported their revision of the document on the restriction and prevention of diphtheria, and different points were discussed, amended, the document adopted, 30,000 copies will be printed, and the document stereotyped so that local boards of health may secure any number of copies at cost of paper and press-work.

Dr. Jacokes referred to the great lack of knowledge among those who ought to know, as to what constitutes thorough disinfection. He proposed to remedy this by the preparation of a circular on disinfection.

Drs. Baker and Kellogg were appointed a special committee to prepare a tract on disinfection, which shall give the best method adapted to each disease and to each article to be disinfected, and which shall call attention to the many useless substances now employed for such purposes.

The document heretofore issued on the treatment of the drowned being out of print, it was referred to a committee for revision, with a view to its republication.

Dr. Baker was instructed to prepare a paper on the best methods of constructing hospitals for communicable diseases, avoiding the use of the name "pest-house."

LEGISLATION UPON HEALTH.

Hon. Le Roy Parker, committee on legislation, made a report relative to public health acts passed by the last Legislature, giving the titles of forty-eight acts bearing directly or indirectly on public health subjects, mentioning the subject of each act. These acts give increased powers to local boards of health, additional appropriations to the State Board of Health, authorize the Board of Control of State Swamp Lands to appropriate lands to drain overflowed lands, etc.

The recommendation by Dr. Foster Pratt, of Kalamazoo, for the amendment of the law relative to reporting dangerous diseases, was referred to the committee on legislation.

Under the new appropriation made by the recent Legislature, the Board authorized the purchase of additional meteorological instruments for the use of the Board's observers in different parts of the State.

WORK IN THE OFFICE.

The Secretary read a report of work in the office, which included a statement of the number of health officers appointed for the present year beginning April 1, as follows: in townships, 797; villages, 107; cities, 32; total, 936. For the year ending April 1, there were appointed: for townships, 827; villages, 112; cities, 36; total, 975, a difference of 39. It is believed that more than 39 will be returned before the close of this year. The 975 health officers appointed for 1880 made annual reports to this Board, as follows: of townships, 414; of villages, 55; of cities, 14. Clerks of local boards of health have sent annual reports for 1880: from townships, 501; from villages, 36; from cities, 7. The compilation of these annual reports is now in progress.

During the quarter, the correspondence of the office has been materially increased. This was partly caused by the outbreaks of small-pox in the State, and by the prevalence in some places of diphtheria. In one northern township, where the health officer was not a physician, the local officers applied to this office for a physician to be sent to aid in stopping the spread of the disease; and, by direction of the Secretary of the State Board, Dr. Hawxhurst, ex-health officer of West Bay City, went there at the expense of the township, and has reported that the outbreak has been stopped.

The usual number of complaints have been received of sickness caused by flooding rivers, for the purpose of running logs in the northern part of the State. In answering these, the Secretary has used Mr. Parker's paper on the powers and duties of local boards of health.

EXAMINATION IN SANITARY SCIENCE.

The fee for examination in sanitary science was changed from \$10 to \$1, the latter sum being deemed sufficient to cover the actual expense. It was voted that applicants unable to be present at this meeting may be examined at the meeting of the Board, October 11, 1881. Application to be made to the Secretary at Lansing.

GLUCOSE SUGAR AND SYRUPS.

Several samples of sugar and syrup, manufactured at the Michigan Grape Sugar Factory at Detroit, were presented to the Board and partially examined.

NOTICES OF CONTAGIOUS DISEASES TO SCHOOLS.

The Secretary presented samples of notices of contagious and infectious diseases sent by the health officers of Grand Rapids and Tecumseh to the superintendents of schools in those cities; and suggested that if the health officer of each city would send such notices to superintendents, it would be a very important public health measure.

PREVENTION OF BOILER EXPLOSIONS.

An account of an experimental boiler explosion, by D. T. Lawson, was presented. His view is that they can be prevented by such a construction of the boiler as will stop the too rapid increase of steam under suddenly reduced pressure, as at starting the engine or by the sudden introduction of cold water. Results thus far seem to demonstrate the correctness of his theory.

The Secretary was directed to present hereafter, at each meeting of the Board, a *resume* of the action of other State boards of health.

After auditing bills and accounts, etc., the Board adjourned to meet October 11, 1881.

SELECTIONS.

Recent Progress in Gynaecology.

BY W. H. BAKER, M. D.

EXTIRPATION OF THE CARCINOMATOUS UTERUS THROUGH THE VAGINA.

THE operative procedure as adopted by Schroeder and described by him in a paper presented to the German Gynaecological Society at the fifty-third annual meeting of German Naturalists and Physicians, held in Dantzig, consists in inserting a muzeux forceps into each lip of the os and drawing the uterus downward. The vagina is then cut through round about the portio vaginalis, which

is often much thicker than is generally supposed. The separation of the bladder from the cervix may be accomplished without difficulty, the connective tissue between the two organs being loose and easily separable. The bladder escapes upward, which greatly protects the ureters from injury. The posterior surface of the uterus must next be freed. Douglas's pouch is opened, the two folds of which, during the forcible traction downward, are often close together. The scissors may be used to widen the posterior opening. The uterus is then inverted from behind. This is easy at times, but very difficult when the organ is large and stiff. After inversion, the uterus lying in the vagina, the peritonæum of the vesico-uterine excavation is cut into, and the uterus is then attached only to the broad ligaments. These are not easily disposed of; the hemorrhage is not large, the downward traction preventing it at first, but secondary hemorrhage is to be feared. In ligating, Schroeder preferably leaves the tubes and ovaries in the pelvis, because the pedicle thus obtained is longer. Dividing above the ovaries prevents the place of ligation from being drawn into the vagina or fastened there. The spermatic arteries, together with the infundibulo-pelvic ligament, draw upward. For this reason, in one case cited by Schroeder, a very difficult and tedious circumligation was required. Ligation may be performed *en masse*, or in portions, or both. Division then being made close to the uterus on one side, the uterus may be drawn down with great facility, and the ligation of the other side is much easier. Both stumps are sewed into the vagina, and a drainage tube inserted into the central opening. Schroeder sews with silk and ordinary curved needles, first laterally outward, and the stump almost between the two margins of the vaginal wound, so that possibly bleeding vessels or discharging wounds project into the vagina. Be the uterus ever so friable, the operation is still possible. Should it be adherent, he would separate benign adhesions from the malignant fixations. Benign adhesions are easily separated, but those caused by the formation of tumors tear.

That the prognosis is good is asserted not from statistics merely, but from the impression made on those who have recovered, an easy convalescence being the rule. An important fact in favor of the operation over laparotomy is the absence of collapse or shock, even after

much loss of blood. Schroeder's cases reacted like puerperæ after considerable hemorrhage, the recoveries being rapid and perfect, and impressing him greatly with the important difference between the superior and inferior methods of operation.

Many cases do not occur in which the entire uterus must be extirpated. It must, however, be done in affections of the cervix. The vagina may be likewise affected, but the section must extend to one, possibly to two, centimeters from the new formation. Thus the operation finds its limits.

Counter-indications: (1.) When carcinomatous nodules can be demonstrated in the pelvic connective tissue. (2.) When not only extensive infiltrations exist, but also quite small nodules, as often demonstrated by careful palpation in Douglas's folds. (3.) In carcinoma corporis, laparotomy, in which operation the body of the uterus alone is removed, being often much easier and less dangerous. In carcinoma corporis, laparotomy, with amputation at the internal os, might become the typical operation. (4.) When the size of the uterus is too great, the operation being most easy in a roomy pelvis and ample vagina.

CANCER OF THE BODY OF THE UTERUS.

Veit has himself observed twenty-one cases in three years. He concludes that carcinoma of the body is always beyond any doubt a glandular carcinoma. Different forms occur, depending on the early disintegration of the new formation; so that as the degeneration increases layer by layer the cavity becomes larger, while the neoplasm itself is not thick. But a circumscribed spot may become affected, and a node form from that starting-point. In other cases the uterus is tense, and large nodes spring from it. No case has been observed in which the mucosa was not implicated. The musculature has but a slight tendency to carcinomatous degeneration; the peritonæum rarely participates. Veit favors the view as to its origin from adenoma. Microscopical examination determines the diagnosis. The most important characteristic symptom is the intermittent, labor-like pain.

TREATMENT OF EXTRA-UTERINE PREGNANCY.

Dr. Lusk cites several cases of extra-uterine pregnancy

in which faradization and galvanism have been effectually used.

In the larger number the faradic current was employed, and of these his own case was one. Faradization in extra-uterine pregnancy was first successfully used by Dr. J. G. Allen, who reported in 1872 two cases of recovery through its instrumentality. So far, since then, his method, faithfully carried out, has proved uniformly successful, has presented no drawbacks, and all the women are known, from private inquiry, to be enjoying good health at the present time; while of one hundred and fifty cases of tubal pregnancy collected by Hennig only seventeen survived.

The transmission of the current through the ovum has thus been proved a safe and efficient means for destroying the life of the foetus, during the first three months of its existence. The application consists in passing one pole into the rectum to the site of the ovum, and pressing the other upon a point in the abdominal walls situated from two to three inches above Poupart's ligament. The full force of the current of an ordinary one-cell battery should be employed for a period varying from five to ten minutes. The treatment should be continued for one or two weeks, until the shrinkage of the tumor leaves no doubt as to the efficacy of the treatment.

ENUCLEATION OF SUB-PERITONEAL FIBROIDS THROUGH THE VAGINA.

Professor Czerny, of Heidelberg, reports several cases where he enucleated sub-peritoneal fibroids through the vaginal cellular tissue without opening the peritoneal cavity, and others where the peritonæum, being slightly injured, was immediately closed. Some of the fibroids were in the broad ligament and some in Douglas's fossa, while one was between the bladder and uterus. His plan is, by dissecting with blunt instruments, to tear his way to the tumor, and then drag it out, cutting as little as possible. The results were good. The operation has been done a few times only, but he thinks it deserves attention.

Although the cases have not yet been reported, Dr. Marcy, of Cambridge, has twice within eighteen months done this operation, once with great facility and success. In the other instance the peritoneal cavity was opened

through Douglas's fossa, and an ovary removed at the same time with the fibroid, the patient making a less perfect recovery.

As early as December, 1876, Dr. Van Derveer, of Albany, most successfully removed through an incision in the posterior vaginal wall, without wounding the folds of the peritonæum, a fibroid, which he was inclined to consider interstitial.

Philadelphia County Medical Society.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, April 27, 1881, Dr. Albert H. Smith, President, in the chair. Papers were read by Dr. Roberts Bartholow on "The Therapeutics of Alcohol used Internally and Externally."

DISCUSSION UPON ALCOHOL.

Dr. George Hamilton regarded the nourishment of the patient as the main point in the treatment of exhausting diseases; stimulants might aid nutrition but can not take the place of food. In declining years of life a moderate amount of alcohol may be of service, but in youth it should be used with the utmost caution. The recommendation of Todd had been too closely followed, and he could now see signs of a reaction against indiscriminate stimulation. Typhoid fever is most likely to occur at from sixteen to twenty-one years of age, which also is a very fatal period. The mucous membrane of the alimentary tract being at this age unaccustomed to alcohol, the greatest caution should be observed in giving large amounts of stimulants. It is usually recommended to be given early in the disease, which he regarded as wrong. Even in phthisis it should be used with care. He believed that the physician is often unjustly blamed for having recommended stimulants to persons who form the habit of drinking to excess; and he cited a case where a man was said to have died a drunkard because a certain doctor had prescribed brandy for him. It was subsequently learned that the man was a drunkard before he ever saw the doctor.

Dr. H. C. Wood said that he was reminded that he had forgotten to refer to the use of alcohol as an antiseptic.

In simple alcohol we have an antiseptic agent which is capable of banishing Listerism from surgery, if properly used. He would simply dress the stump with a cloth kept constantly wet with alcohol. No germs could possibly enter the wound, and the remedy is much safer than carbolic acid. He could not admit, however, that alcohol exerts this same antiseptic effect after entering the blood: the protoplasm of the blood-cells is just as delicate as the protoplasm of the micrococci. Such treatment would be like the proposal to kill trichinæ in the muscles by giving the patient picric acid. Before it poisons the parasite the patient becomes translated.

He agreed with the last speaker in condemning the abuse of alcohol as an antipyretic. Alcohol should not be used in a routine manner in fevers, but should be held in reserve. It is of use in low fevers in other ways than as an antipyretic. From a number of calorimetric observations upon animals he had concluded that alcohol had no influence upon tissue-change or the production of animal heat, but does exert an influence upon the throwing out of heat from the blood. The temperature falls because more heat is dissipated, for the same reason that it falls after section of the spinal cord. Vaso-motor palsy leads to a decline in the temperature, whether caused by injury or by alcohol. It is very plain that if alcohol is to be given to produce reduction of heat in this way, it will have to be given in large doses—large enough to produce vaso-motor paralysis and depression, which we do not want caused in low fevers, and therefore can not usually give it to reduce the heat to the normal temperature. As regards the quantity required he would not lay down any absolute rule. He referred to a case in which a man, after a rattlesnake-bite, took about two pints of whisky with only good result—an amount which in health would have depressed the heart only elevated its power under these circumstances. It is so in low fevers. Eight or ten ounces per diem in a low fever may produce no more effect than two or three ounces in health. A young lady suffering with typhoid fever under his care had a pulse of 140. He increased the stimulant until she was taking one ounce of whisky every three hours; but finding it impossible to keep it down below this point, as it was at the rate of 160 at the time of his visit one night, he increased the stimulant to two ounces every two hours. The

next morning it was down to 120. It seems, in some cases of low fever, that an amount of alcohol, which could produce fatal depression in health, may only act as a vital stimulant.

Dr. Addinell Hewson saw something inconsistent in the last speaker's remarks. He had spoken of the effects of alcohol in retarding cell-growth when referring to its antiseptic effect; he had also mentioned an effect upon the blood-cells and in retarding the movements of the white corpuscle. As all tissue-change is dependent upon cell-growth, the speaker did not see how alcohol could influence the cell-movements without at the same time effecting tissue-change. This is the teaching of experience; and it therefore happens that alcohol often impairs nutrition rather than benefits it. The effect of alcohol upon the gastric juice is to precipitate the pepsin. To these facts may be attributed the injurious effects of alcohol in some depressing diseases.

Dr. C. B. Nancrede said that the alcohol-dressing of wounds was an old treatment. He thought that experiments made many years ago by Onimus, of Montpelier, upon animals demonstrated that it was not necessary to import micrococci in order to account for suppuration, showing, in fact, that the circumstances favoring suppuration and those developing micrococci are identical. He thought that there was danger of these experiments being overlooked. Fluids swarming with bacteria, which produced active effects upon the organism, were treated with bromine, chromic acid, and acetic acid, which were found to destroy the power of the septic influence of the fluids, but not the number or activity of the vibrios.

Dr. Toboldt said that he had seen bacteria flourishing in a sixty-per-cent. solution of alcohol, where they remained for more than a year without obvious change.

Dr. Hamilton noticed the diversity of practice. Some physicians say that they can not get along without alcohol in the treatment of typhus and typhoid fevers, and others, on the contrary, never use it at all. If the same results always followed the alcohol treatment, its use would be more general.

Dr. J. T. Eskridge said that no precise rule could be laid down as regards the amount to be used. In one case he had given thirty-six ounces of brandy daily for several days, with successful result. It was in the fourth week of

a relapse of typhoid fever. The patient did not take much alcohol in the first attack, but in the relapse the temperature reached 105°, the pulse 160. Brandy was increased to one and a half ounces every hour, and continued for about six days. The patient finally recovered. As the pulse came down to 110, and the vital forces were restored, the stimulant was gradually reduced.

The speaker also referred to the value of stimulants in atonic dyspepsia, given directly after eating.

Dr. O'Hara had not seen adduced any satisfactory evidence that alcohol is a food. It is not used to nourish young children, nor to build up the strength of prize-fighters when in training. He agreed with the lecturer as to its value in low fevers, where it does seem to supply force to the patient. He regarded the whole question of its food-value, however, as still *sub judice*.

Dr. Bartholow said that he had no doubt whatever that the position taken by the writers that alcohol is in a very limited sense a food is correct, and one supported by the authorities of our time. Of this there can be absolutely no doubt: a substance undergoing oxidation in the organism is in the position of other hydro-carbons in the food. Alcohol is very valuable as a food, for it spreads out over the whole surface of the lungs, where it yields its force very promptly, as it is very readily oxidized.

In regard to its antiseptic action, he could speak of its good effects in preventing local putrefaction. For eight years he had served as military surgeon, and had charge of several large military hospitals; he therefore spoke of what he had seen when he says that it is entitled, in his opinion, to the place scarcely inferior to carbolic acid. In referring to what had been said in regard to the septic character of fluids independent of minute organisms, he said that it is true that there is a substance different from these bodies which can produce injurious effects; but the speaker had evidently not seen the report of Burdon Sanderson's experiments to the Privy Council, from which the conclusion to be drawn is that minute organisms play a very important part in the production of sepsis, but they are not septic themselves. It is not the minute organisms, but their action, that concerns us, while it is seen that their discussion is a very important subject, as it concerns the development of poisons connected with their presence.

Dr. W. R. D. Blackwood said that from an extended experience as an army surgeon and in private practice, he could endorse the alcohol treatment of wounds. He had not seen better results from Listerism. He had at the present time two stumps under treatment, which had had nothing on them but alcohol. He was perfectly satisfied with the dressing.

Dr. W. H. Parish said that brandy is a very valuable remedy in cholera infantum; cases are lost from not resorting to it sufficiently early. He referred to genuine cholera infantum, and not to entero-colitis. He had found that it would stop the vomiting; he also applied cloths wet with whisky to the epigastric region. Too much reliance is placed generally upon minute doses of calomel, and the brandy is left until it is too late. He agreed with Dr. Bartholow regarding the proper time of administering stimulants and the importance of proper dilution. Hypodermic injections of brandy or whisky in surgical cases lessen shock and the danger of hemorrhage. They should not be given with a view of counteracting the effects of ether, which should never be pushed to its depressing effect in such cases.

Dr. W. S. Stewart noticed that the stimulants in low fevers do not intoxicate the patient, and can not be detected in the breath even after large doses.

Dr. C. H. Thomas said that the question whether alcohol is or is not a food is an important one; but there can be no question but that in many cases it acts like a food. He cited a case of a lady who received a severe nervous shock and was almost insane in consequence. She was constantly vigilant, would take no food whatever, and was rapidly losing flesh: in ten days she lost between thirty and forty pounds. It was determined on the third or fourth day, to give her whisky, of which she took some every hour, amounting to a quart a day. At the end of the tenth day she slept well, and for the first time complained of the amount of whisky, which was rapidly reduced—the next day to one pint, and the following day to half a pint. In a few days more, after she had begun to take food regularly, she could not take a wineglassful of whisky without its flushing her face. In this case alcohol acted like a food, at least until other food could be taken.

Dr. Nancrede said that as a comparison had been made

between the results of local use of alcohol and those of Lister's method, he would say that he was not an advocate of Listerism, but would inquire whether any surgeon in Philadelphia had adopted fully the genuine treatment as recommended by Lister. He thought not. We are therefore not in a position to speak of its results from experience.

Dr. Bartholow, in reply to a question, said that alcohol should not be given hypodermically to relieve the narcotic effect of ether or chloroform, because, having similar physiological effects and acting like them, it will only add fuel to the fire.

Dr. H. C. Wood, in conclusion, said that in regard to the question of alcohol acting as a food in childhood, it is paradoxical but true that if you wish to make a stunted child grow you should use alcohol, and if you wish to stunt a child you can do so by alcohol, simply because small amounts aid digestion, and large amounts disturb it and prevent assimilation. With regard to the non-appearance of alcohol in the breath in low fevers, he would account for it on the ground that the alcohol was used up in the system.

Notes on the Use of Pepsine in Medicine, with Recommendations Regarding Saccharated and Pure Pepsine.

THAT many of the diseases from which mankind suffer during infant and adult life are caused by malnutrition, there can be no doubt; and the extent to which non-assimilation of the life-giving properties of food interferes with recovery from severe illness, baffling the best directed efforts of the physician, points to the necessity of an agent sufficiently potent to replace the deficient principle and aid nature in renewing the degenerated tissues.

Realizing this need, the science of chemistry produced pepsine; and even if medical literature were silent as to testimony of the results obtained, the large amount manufactured and consumed would amply attest its usefulness. But such is not the case; for, after long and careful investigation on the part of practical therapeutists, it is accepted as the remedy *par excellence* in all cases where the gastric juice fails to afford a sufficient amount

of ferment to a reduction of aliment to a condition suitable for healthy assimilation.

As the undoubted value of pepsine as a remedial agent became evident, competition in its manufacture was stimulated; and, as the natural result, the supply was varied both in purity and strength, and the medical profession, while anxious to avail themselves of its usefulness, were nearly as often misled into erroneous conclusions regarding its efficacy, as satisfied with its results—solely in consequence of their misfortune in not using such qualities as were likely to produce the much-lauded effects. Under these circumstances, a definite understanding regarding reliable preparations is desirable and of great importance. Pure pepsine, without acid, thoroughly triturated with finely powdered sugar of milk (saccharated pepsine*), will, without doubt, produce the perfect results in all cases where the remedy is exhibited.

Routh, in his "Infant Feeding," gives an account of a result obtained in the case of an infant. "Small, wrinkled, emaciated, four days old, yet presenting almost the appearance of decrepitude. The voice was weak, but distinct, and respiration not obstructed. The mother was an excellent nurse; but, although the infant took the breast readily, it constantly threw up every meal. What passed through the bowels was unchanged, although slightly tinged with bile. Diarrhoea was also present." The usual external remedies were applied, but without avail. "Emaciation was on the increase; the child was, in fact, dying." At this stage saccharated pepsine was administered, fifteen grains divided into ten powders, mixed with a little of the mother's milk, and after the second day the diarrhoea ceased and the child appeared much stronger. Twenty days of this treatment and the child was quite well. The eminent author adds: "This is a case which speaks strongly to the convictions. If, at so early a period of life, when vitality and digestion were so weak, the artificial pepsine effected a cure, *a fortiori* will it be likely to do so in the case of older children; and so I have found it in practice. The digestive powers

*Saccharated pepsine, free from acid, is prepared by Messrs. Kidder & Laird, No. 83 John Street, New York, who generously furnish samples of this and the pure pepsine, free of charge, upon application.

are thus assisted, and the food, which before was useless, because undigested, readily becomes assimilated."

When administering pepsine, the slight acidity of the natural fluid should be produced as nearly as possible; and as the necessities differ with the circumstances, it is desirable that the preparation be quite free from acidulation, and the proper dose be given in combination with the requisite amount of dilute acid. Of Kidder & Laird's pure pepsine, five to ten grains, for an adult, can, if necessary, be taken in an ounce of water with five drops of muriatic acid.

For infants, however, the saccharated pepsine will be found to yield the most satisfactory results, and the acid should be dispensed with. Quantitatively it represents one-tenth of the strength of pure pepsine; but it has been found to be but about one-fourth less in efficacy. The absence of acid, which would otherwise tend to produce harmful results, will be recognized when it is considered that even the slight acidity of most cow's milk, when used as a food for infants, is sufficient to disagree with them.

With regard to the proper time for its administration, as before or after the taking of food, opinions vary; but reason would suggest that about half an hour before eating will afford the ferment a sufficient time to combine with the existing condition of the stomach, and produce the most natural effect upon the food when it has been acted upon by the salivary fluids in its passage to the stomach.

When once the formation of peptone has been established in the stomach, and as strength is acquired, the system will soon respond toward resuming the natural production of its normal fluids. Thus it is that many of the disorders of digestion which accompany severe attacks of fever, phthisis, etc., and also the exceedingly sensitive condition of the stomach, caused by vomiting in pregnancy and alcoholism, are controlled, and a natural condition resumed.

Having mentioned the necessity of great care in the selection of pepsine, with reference to its purity and strength, it is proper to say that, even with the superior article above recommended, negative results may be obtained, unless attention is given to the form of its administration. Combinations beyond those above mentioned

are not advised, but rather discouraged; as many of the substances usually recommended as efficacious with it are incompatible and render the pepsine inert.

Hygiene of the Laboring Classes.

BY W. J. SCOTT, M. D., CLEVELAND, O.,

Professor Theory and Practice of Medicine, Med. Dep't Wooster University.

THE position which I have held during the last year imposes on me the task of presenting for your consideration some subject worthy of the occasion, and of interest to the profession and the public.

I will, therefore, present for our consideration to-day some conditions involved in the hygiene of laboring people. Many of the trades lead to conditions dangerous to life. This is especially true as the trades are now conducted. I can only refer to some of the more prominent employments, in which great numbers of people are engaged. Take the lead manufacturers, in all their varieties —those who use any lead compounds in their avocations, who use lead instruments in their business, or who may become contaminated with lead compounds in other ways —and see what a host are exposed in these ways to bad influences for health.

Many of these exposures can be entirely abolished by proper knowledge on the part of the workers, or on the part of the employer. Here we have a large class of persons, exposed to the worst possible conditions for health, composed of quarrymen and stonemasons. Some of these influences can be avoided by the application of dresses to prevent the exposure during the time the people are employed. Millers, and persons employed in handling grain, are exposed to conditions which lead to the same sort of disease, equally fatal in proportion to the number employed. Among wood-workers, in all varieties, there is an immense number employed—as you will see if you consider the great variety of those works and manufacturing establishments. This great throng is exposed all the time to the dust and dirt which it is possible to make in such shops. And, consequently, the workmen are exposed to all the worst conditions which can be produced by the manner of doing the work. Those

who have had the planning and construction of such works never have thought for a moment how these conditions could have been improved or prevented, and the health of the operative protected. By proper and scientific attention to these subjects, the mortality can be materially diminished. Similar conditions are found in all machine shops. There has not been the least attention paid in the construction of the works, or the manner of doing the work, to protect the workmen from the ill effects of the trade. There is no doubt that often the improvements which would protect the mechanic would also benefit the business, by having the work better and more promptly done. Intelligence in all mechanical processes improves the trade and the material produced. Then, certainly, anything that would attain so desirable an end for all concerned should be done.

Again, in all places where fiber materials are worked, or manufactured, very little account has been taken as to the consequences which would result to those employed in these processes, or whether bad conditions could have been prevented by better architecture or improved processes in the manner of work. In all such shops, where great numbers are employed and the places must be kept warm and are dirty, the atmosphere becomes exhausted of oxygen, and filled with fiber and animal compounds undergoing change; also, with cryptogamic growths, bacteria, echinococci, and what not. In all these places, and they are very numerous, seldom has means been taken to improve the surroundings for the benefit of those employed, either by ventilation or in any other way. The employed, in great numbers, suffer from lung diseases.

Another large class of sufferers is found among metal workers. Grinders and polishers, and workers on emery wheels, are exposed to conditions daily which will surely shorten life; yet neither the architect nor the machinist, who have had the construction of the works, have paid the least attention to this subject, either in the construction of such works or the manner of operating them, looking to the protection or welfare of those here employed; yet it is true that a proper knowledge of mechanics and the principles of natural philosophy, applied, would remove the causes which lead to disease in such works. In many of the processes employed in the manufactory of the substances derived from petroleum, the

men are exposed to the most unwholesome conditions. They are compelled to inhale gases in treating houses, in stills, in paint shops, and in a thousand and one ways, which sooner or later leads to emphysema and heart disease, and to total disability of those employed. These conditions could often be avoided by proper construction of the works, and taking the necessary precautions to avoid these conditions. But when I have suggested my views to the men employed in such works, they have thought, often, that I did not understand making coal oil. Indeed, those who own the works seem often to consider such suggestions as an attempt to interfere with their business. This is true with many trades and works also. When I have suggested to white-lead workers, grinders and polishers, and workers in dust, the propriety of using some appliance to prevent the inhalation of bad materials, they have said to me: "What do you know about grinding?"

I could enumerate other employments of equal importance, and just as destructive to health. Now, I submit the question whether these subjects should not demand our attention, as conservators of public health; and, also, to be in a position to treat the sick and afflicted. The public will also see the importance of these considerations when properly presented to them. From our investigation, I am sure that you must admit that in these many ways our mortality is largely increased, by diseases which could have been avoided by proper scientific attention to these relations.

Then, somebody ought to have the responsibility imposed on him—to see to these affairs, as a State measure for the common good. There often arises a strong opposition from employers, who are ignorant of the importance of this subject, because they think that such restrictions will interfere with the prosecution of business.

Often, also, in manufacturing places men are exposed to dangers to life and limb unnecessarily, by the manner of arrangement and construction of machinery, which could have been differently arranged without interfering with efficiency. Belts, revolving shafts, revolving couplings, fly-wheels, etc., are undefended from all who are necessarily about them and liable at any time by accident, or by carelessness, to be caught and hurt. It is apparent to any person who considers this matter, that most of

these accidents might be avoided by proper and intelligent attention by those in authority.

Especially are objections made in tobacco and cigar factories. In these places, no attention is paid to the construction of the works. In all such places where they have an engine, the means of changing the air could be easily arranged, and would greatly benefit the employes. In shoe manufactories similar objections exist, on account of accumulated dirt kept warm, and the hands, who are often numerous, breathing over and over an exhausted and vitiated atmosphere. So often, I would think generally by my observation, the editorial sanctum and composing rooms are not above criticism in these respects, yet from here we often receive homilies, on hygiene and cleanliness, for the instruction of other people in such matters. All these conditions are, as a rule, neglected by those in authority, who have the power to correct abuses—to the very great advantage to the health of people employed in such avocation, and the mortality be much diminished and the welfare of the community promoted, as well as that of the individual. These examples are sufficient to show that the general mortality is greatly increased in these ways, and that by preventable diseases. If we look over mortality statistics as published every week by the National Board of Health, we see that all manufacturing towns have a high rate of mortality, by such diseases as are produced in these ways. The great majority of them probably induced, not inherited—and, therefore, contracted.

There is another source of such diseases very similar in character to those which I have pointed out, which should receive attention from the people first, and then from our profession. It is a fact, I believe, that our people, as such, live better and are better clad than any other nation. Yet I think great numbers, especially of young people comparatively, are suffering from one of the worst diseases by neglect of personal cleanliness, of person and clothing. What I am about to say I mean not as derogatory to the people in the least, but as to their manner of living. It is within the experience of every physician to have some strong and healthy young people come here and go to service in shops and mills, and to know that within a year or two their health fails and they die with consumption. Many of them have a good family history,

so far as can be learned from the subject. I have seen the same class in other places and know that it was uncommon for them to suffer as they do here. I have seen hundreds of them digging in the Ohio Canal, and sleeping in board shanties, without the general health becoming affected in the least, in the way that they are here. All the men employed on the farms in the Scioto Valley are, as a rule, healthy, and they are the same class which suffers here by the score. What makes this difference? Here they live in filthy boarding-houses, with perhaps enough to eat, but they sleep in close rooms, several persons in the same apartment, with their clothes saturated with perspiration; or, when the clothes are removed, they are hung in the same room, or, what is worse, in a small closet to ferment and dry. The decomposition which takes place assists very greatly to contaminate the atmosphere; and thus, day by day, they live in air poisoned with changed animal compounds, until the general health fails, and a cough commences and the subject continues to live in the same way, not thinking or being told that the conditions by which he is surrounded are killing him. It is next to impossible to correct these abuses against proper hygiene. The boarding-mistress would show you the door with her blessing, should you say that her house was not clean, or that it had been kept in such a way as to lead to sickness among her people. Yet I venture the assertion that the odor produced in such places, and under such circumstances, is so peculiar and characteristic that it can be distinguished by the odor imparted to clean clothing kept in such closets, and is so persistent as to remain for some time after they have been removed and even worn away. I have found the same conditions in well-kept private houses, among the help, and brought about in the same way. Very frequently do I meet servants who have come here well and hearty, with rosy cheeks, and, after a few years of service, the health fails, a cough begins, and within the next year they die with consumption. The number who go in this way is not small. Inquire of such persons and often you can not find anything wrong in the family history. These persons are found among girls who work in cellar kitchens and small places, often overheated, and sleep in small, close rooms so as to generate a miasm, which gradually produces the diseases which we all meet so commonly. It may

be said that these conditions act as the exciting cause when brought in conjunction with a constitutional dyscrasia. Then we ought to avoid the cause, when it can be done as well as not. These people suffer in these ways ignorantly, but are always offended if they are told that their afflictions are produced by not taking proper care of their persons and of their clothing. The ladies of mansions are also sensitive if a suggestion should be made that there is anything about the premises not as it should be. From long observation on this question, I am satisfied that there exists in these, fruitful sources of disease. Many times in my clinical experience have I been able to tell by my sense of smell where the patient came from, and what kind of an atmosphere he breathed.

What can be done to correct so grave a condition? Medication does not do much good, the conditions remaining the same. If you venture to suggest to the patient that a warm bath will be of advantage, you will be met with the fear of cold afterwards. If you suggest to a boarding house keeper that a more liberal use of warm water and soap would improve matters, you will be told to mind your own business. If you suggest to a lady that her kitchen and dormitory were poorly constructed, and poorly ventilated, and that her servants consequently are suffering from that cause: "Nonsense," she will say, "my house is in perfect order, and there is no cause of disease about it." So it goes, and the people continue to gradually become sick and die, and nothing is done to correct the evil either by the people or the profession. Thus they perish of a disease which they never would have contracted, had their hygienic conditions been better. I am satisfied that people must be taught to realize these facts, to correct so grave an evil. The correction, in the main, is in cleanliness, and the admission of some of heaven's greatest blessings—plenty of fresh air and sunlight—to blow out and away the stink of putrefaction.

Where rests the responsibility, in all these various relations? Not always with the sufferers, for various reasons. They have not the knowledge of the subject to do so. They have not the means nor the power; they must be just hewers of wood and drawers of water. The responsibility in these discussions must rest somewhere with the architect and mechanics, with the machinist, with operators in business, who are often more ignorant of such

affairs than those employed; and often professional men are too illy informed of the principles of mechanics, and the principles of natural philosophy, to have any definite idea on what can be done to correct bad conditions.—*Ohio Med. Recorder.*

Treatment of Pneumonitis, with Illustrative Cases.

BY P. O'CONNELL, M. D., SIOUX CITY, IOWA.

DURING the past four years the treatment of pneumonitis has been frequently discussed in current medical literature. Several able articles have appeared, from time to time, in the journals, advocating and detailing different and equally successful plans of treatment. The hope that others may try a method which is simple, inexpensive, and easily carried out, with the same gratifying result that I have had from it, prompts me to forward this contribution to the literature of the subject. Possibly the good result attained under very simple treatment may be a coincidence—may be only the natural history of pneumonia and not the result of the treatment employed. Although being *post hoc*, I consider it fairly *propter hoc*. Acute idiopathic lobar ("croupous?") pneumonitis is referred to in this connection.

The *antipyretic treatment*, in contradistinction to that usually followed by most practitioners in hospital and in private practice, consists essentially of the cold bath, large doses of quinine, and salicylic acid.

The *cold bath* is a very powerful means of abstracting heat from the body. The patient is kept in the bath during ten to twenty minutes or more, or until the temperature is reduced to about 100° F. The bath is always repeated under the personal supervision of the medical attendant, as often as the temperature mounts up to 103° F., or over. It requires frequent repetition, the reaction being often great and sudden, and the effect, therefore, but temporary. It certainly is difficult and troublesome to carry out, and is not seldom attended with some risks and unpleasant consequences. To patients and friends this plan seems not only heroic, which it really is, but positively appalling, and is consented to reluctantly. After fair trial it has not yielded to very good results, and

now has few advocates except among hospital physicians among English speaking peoples. For private practice it is practically useless.

Quinine, in some form, has many more advocates, and deservedly so. It is given by some in grain doses every hour, or five grains every four hours, or ten grains three times a day. Others give twenty to thirty grains morning and night, while a few give forty to fifty grains at once, and do not repeat the dose for twenty-four hours.

At Bellevue Hospital, New York, the cold bath was tried. The result was disappointing, and it was soon given up. Dr. James, of Frankfort, Kentucky, after a fair trial of the cold bath does not think very highly of it. In his opinion the result was not proportionate to the disturbance to the patient, nor to the risks, nor to the labor necessary to carry it out. With it the deaths amounted to seventeen per cent.; with quinine, in large doses, the death rate was twenty per cent.; salicylic acid proved a total failure in his hands. It is but just to say that the above figures were obtained by Dr. James during an outbreak of sewer gas pneumonia, when the mortality will necessarily be high under any and all forms of treatment.

Antimony, for its expectorant and diaphoretic effects, will be beneficial in some cases. Its sedative action on the heart proves very useful occasionally. In strong, vigorous patients I have found it answer well. Children under five years of age can not, of course, safely take it except in rare cases.

Opium, especially when there is much pain, will be both useful and necessary. Diaphoretics and expectorants, to which may be added small doses of opium and sometimes antimonial wine in nauseating or non-nauseating doses, as occasion may require, will often prove a useful combination. Yet, out of a total of sixty-four cases treated by Dr. Thomas Barr, of Glasgow, Scotland, with antimony, opium, diaphoretics and expectorants, or with a combination of these agents, he had a mortality of *one in six* in private practice.

There is quite a unanimity of opinion as to the benefit of external applications to the chest, over the inflamed lobe or lobes, linseed poultices being in greatest favor. Moist warmth is both soothing and agreeable to the patient. Frequently it is all that is necessary to relieve the stitch-like pain. In my opinion it favors and hastens res-

olution. Mustard, turpentine, and even blisters, occasionally, may be required, but not until the consolidation of the pulmonary parenchyma tends to linger.

The treatment which I now practice is as follows: A piece of thick white flannel, loosely wrung out of hot water, is wrapped round the chest and covered with some material impervious to air and moisture, such as oiled silk, gutta percha tissue, or thin oil cloth. If only the lower lobe in one or in both lungs be inflamed, the flannel need not extend higher than the axillæ. But when an entire lung is involved, then the flannel must cover the entire thorax, apertures for the arms to pass through being cut in it. I deem it essential, and, therefore, always insist, that the flannel shall extend completely round the chest and overlap a little, at the ends, on the front of the thorax, whatever may be the extent of the lung tissue involved. The outer air-tight covering should be a little larger, every way, than the flannel, so that the heat may not escape under the upper nor lower edge, nor at the sternum where the ends overlap. In all this there is nothing new. Dr. Flint speaks of it in his Practice of Medicine. Flannel heated and covered in this way retains its warmth quite as long as a poultice. I have, occasionally, used linseed poultices, but give the preference to the hot moist flannel, because it is much more cleanly and less troublesome; it is easily renewed by dipping it again in hot water and loosely wringing it. Besides, few can be relied upon to properly and efficiently make a linseed poultice.

Then genuine James' Fever Powder (*Pulvis Jacobi Verus*), one to five grains every two, three, or four hours, according to age, is prescribed. Five grains, to adults, is the maximum dose employed by me, while one grain can be given to a child under six months. The warmth of the flannel, aided by the James' Powder, soon induces and maintains gentle diaphoresis; the stitch-like pain is relieved; respiration becomes fuller and less hurried; cough grows softer and less hacking; expectoration becomes easy; the temperature steadily declines; the patient soon feels quite comfortable. If pain be very severe, a small hypodermic injection of morphia may be given to adults, although this will, I believe, be rarely required. In the case of children or adults, extract of opium or of belladonna, rubbed up with a little glycerin, may be painted on the skin over the painful part before applying the hot flannel; or tinc-

ture of opium, of belladonna, or of aconite root may be sprinkled on the flannel, whenever the attending physician should judge such useful. Children under five years of age will need an emetic of ipecacuanha once or twice a day, if they do not clear the lungs sufficiently by acts of coughing.

During illness, a light but nutritious diet of good soup, chicken broth, beef tea, and milk with a little bread or crackers, is allowed. If craved, I see no objection to a little chicken, mutton chop, or beef steak broiled. I have permitted such and seen no ill effects result. My chief reliance, however, is placed on milk, which is allowed *ad libitum*. Infants at the breast must depend on the mother's milk. If there be any evidence of prostration or depression, tonics and stimulants are administered. These I rarely had to employ.—*Chicago Med. Jour. and Exchange.*

Coca in the Opium and Alcohol Habits.

BY A. F. STIMMEL, M. D., CHATTANOOGA, TENN.

SINCE the publication of my notes on the use of coca erythroxylon in the cure of the opium habit and alcoholism in the *Gazette*, of April, I have had numerous applications from patients, as well as from physicians, for treatment and advice, in similar cases. As my limited time forbids answer to all of these letters, I have concluded to send my views for the proper use of coca as a substitute for opium and alcohol, in an article in the *Gazette*, with the request to publish it when space permits.

First. The physician has to consider that his remedy must be pure, genuine and fully strong enough to replace the deleterious stimulant. The treatment of those habits is naught but the replacement of one stimulant with another. The second consideration is the condition, moral as well as physical, of the patient at the time of his application for treatment. If the patient comes to me with a determined resolution to reform, I give him nothing but coca, considering then only the amount of his usual dose of opium or alcohol. That is, if a patient takes ten to twenty grains of gum opii every twenty-four hours, I give at once fl. ʒj coca eryth. fl. ext. (P. D. & Co.'s) and hand

him a four-ounce bottle. Fifteen to thirty drops, when there is desire for a stimulant. The patient will not have any overpowering desire for opium, as long as he has his coca, and his confidence in the new drug will grow stronger and stronger every day. If the patient, however, be weak-minded, irresolute, and without any strength of will power (I hope the fair sex will forgive me for classifying them under this head), I generally manage to change his habit of taking morph. sulph. or gum or pulv. opii, into that of taking tr. opii, and afterward substitute without his knowledge for the pure tr. opii (U. S. Ph.) a mixture:

R_y Coca eryth. fl. ext. fl. 5 viij

Tr. opii fl. 5 vj

Gentianæ quinqueflor. fl. 5 ij.

This imparts to the coca the bitterness of opium, and at the same time secures a tonic effect upon the mucous surface of alimentary canal. The mixture tastes and looks like laudanum, especially after being filtered through charcoal to clear it. It is always taken *bona fide* for the old friend. After continuing this treatment till I have entirely replaced the opium by coca, I tell the patient that he is cured. Of course he will smile incredulously, but I persuade him to stop taking the supposed old stimulant, and he is wonderstruck to find out that he can do it.

Alcoholism.—I consider the treatment of this habit harder than that of the morphine and opium habits. Till I had discovered in P. D. & Co.'s coca a reliable preparation (that of S. & D. has failed repeatedly), I used to confine the patient to his room (generally after an attack of delirium tremens), and to withdraw all food and drink except substituting a mixture of one part water and two parts of whisky for the latter, and having everything he did get to eat cooked or prepared with whisky. I generally succeeded in disgusting him with his old consoler, and the cure usually lasted till he was reconciled again. But now I use the following treatment: Having had two cases—one of a middle-aged lady, living in Georgia, from Bordeaux, France, in the habit of the immediate use of absinthe; the other an old gentleman from North Carolina, a great friend of apple and peach brandy (one quart his daily ration)—I gave to the lady spirit frument, fl. 5 vj, coca fl. ext. (P. D. & Co.'s) fl. 5 viij, ol. artemis absinthe (wormwood, Swiss) m xv; to the gentleman I gave but a bottle of coca fl. 5 jv. Dose, *ad libitum* when needed. I

succeeded with the gentleman. He reported after one week: "I drink nothing but your bitters, and wish more of it." I gave him coca fl. ext. fl. $\frac{5}{3}$ xij, spirit frument fl. $\frac{3}{3}$ j, ol. artemis. absinth. m xv. Report two weeks after: "I am cured, and inclose check, etc." The lady reported: "No success." I wrote, asking name and address of druggist who filled the prescription, and ascertained that he had used "S. & D.'s," but that he had now "P. D. & Co.'s" extract in stock. Report from patient in a week: "Am greatly improved, and take but one ounce of your absinthe bitters each day."

Referring to my statement above, that it is much harder to cure alcoholism than to cure the morphine and opium habits, I am asked why. Because in the one addicted to strong drink there is, in addition to his nervous depression, which calls for a stimulant, a low level of manhood, self-reliance and pride. He needs not only treatment by medicine, but must also be reasoned with. His mind as well as his body has to be controlled. Not that I mean a physician should be a temperance lecturer, or that he should try to exhort and preach. He should, however, show him by his words and actions that in his heart nothing prevails but a deep sympathy for the unfortunate victim of his weakness; he should make the patient believe that he is his best friend. An opium eater, or an inebriate, is more or less of a monomaniac. He has the idea that nothing in the world is worth living for, except the individual has plenty opium or alcohol; at least I have found this to be the state of mind of almost every inveterate morphine eater or toper I have met. They entertain a feeling akin to contempt for those who do not indulge in the woe-soothing stimulants; they consider life as a continued chain of successive links of trial, worry, sorrow and disappointment, and half Stoicks and half Epicureans, they try to rough it and still remove the roughness of the road by mind-soothing anodynes. Those unfortunates are lunatics, and I believe in treating them as such. Even as the house physicians, the nurses and subaltern officers of a lunatic asylum must pet their patients and humor their fancies and ideas, so must the physician who treats one of those, standing on the door-step of the mad-house, humor his fancies and never cross them, but govern his tongue, his temper, and even his eyes.

I hope those few hints I have given will be sufficient to

induce practitioners to try the fl. ext. coca in their own practice. If, however, any one of them should meet with difficulties, or not be able to answer one of the questions arising during the course of treatment of those patients, I am willing to help him with the little advice I can give.
—*Therapeutic Gazette.*

Eucalyptus Globulus.

BY D. J. SNYDER, M. D., SCIO, O.

[Read before the Ohio State Medical Society, June 16, 1881.]

ONE year ago I thought I should be able to report to this Society, at its present meeting, the successful growth in this State of the eucalyptus globulus, Tasmanian blue gum, fever, or sainted tree of Australia. I am compelled to acknowledge disappointment and failure. I procured seed from New South Wales, and minute instruction how to plant, and had the pleasure, last autumn, of having several plants over two feet in height, with every prospect of complete success. The severe winter destroyed every one. Why this should be so, I am as yet not able to demonstrate.

The wood of the tree is extremely hard and compact, is capable of a very fine polish, and is indigenous in the island of Tasmania (formerly known as Van Diemen's Land), which lies south of the Australian continent in latitude 40° - 43° , 30', South, and 140° East from Greenwich. The winters are colder there than in corresponding degrees of North latitude. In summer the heat is more intense, with less rain and moisture. That the eucalyptus can be successfully grown in the Southern States there is no doubt.

That it has a salutary influence over malarial poisons we have sufficient evidence in the fact that in Algeria and the Pontine marshes, in Italy, where millions of these trees have been planted by order of the different governments, the greatest hygienic success has been obtained. Tracts of country that were deserted, owing to the malaria abounding, are now, since the eucalyptus globulus has been planted, perfectly healthy and occupied.

The French physicians speak in the highest terms of the essential oil obtained from their own trees, showing

that difference of soil, climate and habitat do not deprecate the excellence of this valuable botanical production.

For much valuable information in regard to the description, habitat and general therapeutic value of the eucalyptus, I am largely indebted to Dr. Henry M. Marshall, of New South Wales, of whom I procured the seed. This eminent physician and microscopist, in a communication to the Cincinnati MEDICAL NEWS, of August, 1878, says: "The eucalyptus globulus, in common with the eucalyptus family, sheds its bark annually, but not its leaves. The bark is rich in tannin and tannate matter. It is an evergreen. All the native Australian trees and shrubs are evergreens. Some of the eucalyptus family obtain a vast size; in height, growth, and available timber outrivalling the famed trees of California." It is a rapid grower when once firmly rooted. In California it is not unusual to see a tree of six years' growth obtain the height of fifty feet. It is best grown from seed, planted where the tree is to remain; or it can be planted in pots, and, when the tree has attained a proper size, be removed from the pots, either by breaking or turning out, taking care to leave all the earth in contact with the roots. It being an evergreen, care must be taken with the transplanting. I have no hesitancy in asserting that, with the aid of a hot-house—where the young plants could be protected from excessive frosts during the first winter, the wood becoming sufficiently hardened during the second summer, they would resist the frosts ever after.

The leaves of the young plants are opposite, broadly oval, and have an agreeable aromatic odor. In the second year they become more oblong, and at maturity are from twelve to fifteen inches long, and from four to six inches broad. The mature leaves have a variety of shades and colors. On the same tree is observed, frequently, an agreeable blending of them. They contain a large amount of volatile oil; so much so that when a green leaf is ignited, it burns as brilliantly as a gas jet. Several cities in Australia are lighted with gas made from the leaves. Scattered where fleas and vermin abound, the leaves will banish them as effectually as St. Patrick, according to Irish tradition, did the reptiles in Ireland.

The antiseptic properties of eucalyptol (the essential oil of the eucalyptus globulus), have been tested to prove

its efficacy. In Australia the medical profession is advocating, and some have adopted, the method of disinfecting the hospitals and other public buildings by growing the eucalyptus in large boxes through the wards and court-yards. The way they do it is to plant the seed in large boxes or tierces, filled with rich, sandy loam, and let them remain until the trees have attained the height of the ceiling, when they are removed and others put in their place. It is claimed by close observers that the experiment has proven highly beneficial; lessening the danger of contagion by the antiseptic properties, and anti-malarial influence.

The medicinal properties of the eucalyptus are reputed to be as varied and specific as those of the cinchona. Dr. Marshall has successfully employed the oleo-resinous product obtained by distillation from the leaves; also, the aqueous infusion and decoction, together with the alcoholic extract of the leaves and small twigs, in the following affections: Acute and chronic articular rheumatism, by accupuncture and rubbing in the distillate, augmenting the therapeutical effect by internal administration. After all other remedies have failed, by administering the aqueous infusion and decoction, assisting the action by half-grain doses of hydrarg. chlorid. mit., he has succeeded in effectually curing dysentery. In bronchitis, the distillate has proved valuable when applied over the thoracic region. Facial neuralgia has yielded promptly to the application of the distillate externally and internally. In croup and diphtheritic affections, swabbing the fauces with a strong decoction has proved very valuable. In malarial affections, the different preparations of the eucalyptus have proved most successful. The essential oil is now being successfully employed in gonorrhœa and gleet. Great success in asthma has been attained by means of smoking the leaves as cigarettes.

Much more could be written on the virtues of this remarkable tree; as it has, in the last year, attracted a wonderful amount of attention from physicians and sanitarians.

If any member of the profession would like to make an effort to grow them in this climate, I will cheerfully forward, by mail, pure seed with instructions how to plant.
—*Ohio Med. Recorder.*

MICROSCOPY.

Some Remarks on Desiccated Blood.

BY CARL SEILER, M. D., PHILADELPHIA, PA.

THERE can be no doubt as to the desirability of nitrogenized food in a concentrated form, which is easily assimilated by the system, and is therefore readily retained by a weakened stomach, in the treatment of wasting diseases, and especially in those of phthisis, syphilis and cancer, in which there exists a difficulty, or even total inability, of deglutition. It is here that we require an article of food which shall be so constituted that it can be taken up by the system and utilized for the nourishment of the tissues, without necessarily going through the process of gastric digestion, but which may be absorbed directly either by the mucous membrane of the large intestine, as in cases where it is necessary to feed the patient by nutritive enemata, or by the skin, or, finally, by the mucous membrane of the respiratory tract.

For a number of years past I have experimented with and used the different extracts of beef and malt as they appeared in the market, with variable results in the treatment of laryngeal phthisis complicated with dysphagia, and have lately been induced to try a new preparation, called desiccated blood. The first case in which I used the preparation was one of general debility and want of tone, and one in which, ordinarily, I would have given cod liver oil and beef extracts. The desiccated blood seemed, however, to meet all the requirements, and the patient is apparently improving under it. Two other cases which came under my care at about this time, one a case of phthisis with extensive ulcerations of the epiglottis, making deglutition extremely painful, and the other one of syphilitic ulceration of the larynx, accompanied also by dysphagia, promised to be good subjects to observe the action of desiccated blood in. I accordingly ordered for each an injection into the rectum of one drachm of the blood dissolved in the requisite amount of salt and water, four times a day, while at the same time I ordered inhalations from the steam atomizer of a solution of one-half drachm of the blood in three ounces of salt and water,

and one ounce of glycerin in the twenty-four hours. No other treatment, except local applications to the ulcerations in the larynx, was instituted for ten days. During that time both patients did well, and there was an undoubted improvement in their general condition, which must be solely ascribed to the absorption of nutritive elements from the desiccated blood. The use of nutritive inhalations is, as far as I know, a novel idea, and I was prompted to try it by the fact, which I had observed, that butchers as a rule are strong, healthy men, but are rather poor eaters, and especially do they eat little meat. Thus it occurred to me that they might possibly obtain a sufficient amount of nitrogenized food by absorbing through the mucous membrane of the lungs and the respiratory tract, the exhalations from the fresh meat they handle.

After having thus proved the efficacy of the preparation in three cases at least, I made careful microscopical examinations of the blood, with a view to determine to my own satisfaction whether any fibrine was contained in it; whether the morphological elements of the blood had been destroyed in the process of drying; whether the albumen had been coagulated or was in a soluble shape; and, finally, whether the desiccated blood contained any impurities.

I first made a solution of the preparation in plain water (six drachms to five ounces), and from this prepared a number of slides. A careful search, however, for fibrine bands and blood corpuscles was altogether fruitless, and the field of the microscope was filled with granular masses floating in a slightly colored fluid, the constituents of which could even under the high powers (1-10 immersion) not be resolved into any shape. Besides these granular masses I noticed a number of globules of various sizes, which somewhat resembled small drops of oil, for which I at first mistook them, without being able to account for their presence, except that they might have been introduced during the process of drying the fresh blood. This supposition was, however, not tenable, because even after the solution, from which the specimens had been prepared, had remained quiet for twelve hours, no oil could be detected floating on its surface.

I next made a solution of the dried blood according to the formula devised by Dr. J. G. Richardson, of Philadelphia, which is to dissolve dried blood in a solution of com-

mon table salt in distilled water of the strength of fifty-six grains to the pint. From this solution also a number of slides were prepared, and on examination I experienced no difficulty in finding a large number of blood corpuscles in the field of the microscope. They were of the average size of the corpuscles seen in fresh ox blood, but they had to some extent lost their color, so that they appeared paler than normal, and made it somewhat difficult for me to obtain a micro-negative of sufficient density for printing. Most of them were round, but I saw also a number which were crenated and distorted in shape. I again noticed the globular bodies resembling oil globules, and they appeared to be about twice the size of the red blood corpuscles, although some were larger and others smaller. With a view to determine whether they were oil or not, I introduced various coloring solutions under the cover-glass of the specimens, and found that these globules were brightly stained by most of the aniline colors, but not by carmine or indigo, thus proving them to be something else than oil globules.

In this second set of specimens I noticed in one or two instances a few bands of fibrine and some extraneous matter in the shape of dust, both in very minute quantities.

I next made a solution of the dried blood in some artificial gastric juice, and after it had remained in an incubator for four hours, I prepared specimens from it for microscopical examination. In these I found no trace of any blood corpuscles, but the field of the microscope was filled with a brownish amorphous mass, containing a few minute granules. In none of the specimens examined thus far had I been able to discover any flakes of coagulated albumen.

Finally, in order to find, if possible, the origin of the globular bodies, whose nature I had not been able to determine, I placed the thinnest flake of dried blood I could pick out, upon a slide, and after applying the cover-glass, examined it under the microscope. Nothing was visible but a dark mass, with here and there a faint suspicion of the outline of a blood corpuscle. I then allowed a drop of the salt solution to run under the cover, and watched the gradual solution of the flake. Thus I saw how little by little small masses were loosened from the large flake, and in them the outline of the blood corpuscles became distinctly visible, and these were held together by a straw-

colored amorphous stroma. Presently I noticed that a large globule loosened itself from the stroma, becoming subdivided into smaller ones, in which I recognized the same globular bodies seen in the other specimens. Thus I suspected that they were globules of albumen, which had not been entirely dissolved by the salt solution, and this suspicion became confirmed when I found them to be opaque after the slide had been held for a few moments over the flame of a spirit lamp.

To sum up the results of these observations, I found that the desiccated blood contained very little, if any, fibrine; that the blood corpuscles could be restored to their original size and shape; that the albumen contained in it was in a soluble form; and that there was no extraneous matter present except a small amount of dust.

Thus it will be seen, that on theoretical grounds this preparation deserves extended trial in all cases where gastric digestion is impaired or impossible, for if a solution of it is absorbed by the mucous membrane of the bowels and the respiratory tract, as I have strong reasons to believe that it is, and is thus introduced into the system without having undergone any chemical change, as would be produced by the action of the gastric juice, we will have a species of transfusion of ox blood into the human system. Whether the morphological elements, the blood corpuscles, as such and in the normal condition, can be taken up by a healthy mucous membrane I am not prepared to say, but even if they are not absorbed, the albumen in a state as it is found in healthy blood and the salts of the blood certainly can be absorbed and thus must necessarily aid in the nourishment of the tissues.—*Therapeutic Gazette*.

Fine Rulings.

WE recently referred to "Fasoldt's Test Plate," which it was then claimed contained lines ruled at the rate of 1,000,000 to the inch.

Dr. R. H. Ward, of Troy, N. Y., writes upon the subject as follows:—

"In speaking of the modern microscopic rulings on glass, which have been regarded with so great and deserved an interest by all physicists, one can not be too careful to discriminate fully between those that are known to be ruled

and those whose ruling has been attempted but not yet demonstrated. It is self-evident that, in attempting to rule lines 5,000,000 to the inch, a band may be produced which does not consist of lines of that degree of fineness. There is no difficulty in arranging a machine to draw lines, theoretically, of any required degree of closeness. The register of a ruling engine can be so arranged and subdivided as to indicate a spacing at the ruling point of one-tenth million of an inch as easily almost as of one-tenth of an inch; but it may well be doubted whether such fine motion is actually imparted to the diamond point, or could be recorded upon the surface of the glass. It is becoming common to hear the higher bands of Mr. Fasoldt, claiming up to 10,000,000 lines to the inch, spoken of as actually ruled, and only waiting an objective to reveal them. Such an error, made inadvertently by persons who would avoid it by a little reflection, as made in the last number of one of the most popular microscopical journals, gives a lasting as well as erroneous impression to non-scientific persons. Mr. Fasoldt's rulings are certainly remarkable, and the lower bands are ruled with great success; but how far up the scale they continue to be ruled as distinct lines is certainly at this time an undecided question."—*Royal Microscopical Journal*.

Microscopical Examination of Blood in the Diagnosis of Disease.

FOR the purpose of these investigations, M. Hayem recommends the use of a cell thus constructed: a thick plane glass slide has a disk made on it of about 4 mm. in diameter; the rest of the slide is silvered; a small drop of blood is placed on the disk and is covered by a thin cover-glass, so that a layer of uniform thickness is obtained. A little saliva placed round the edge will prevent any evaporation.

When blood is treated with a mixture of 200 grammes of distilled water, one gramme of pure chloride of sodium, five grammes of sulphate of sodium, and half a gramme of pure bichloride of mercury, the blood-corpuscles are separately isolated and distinguished from the other constituents. The fibrine then breaks up into two distinct groups.

Perfectly normal blood, thus treated, shows the following reactions. At the moment when it coagulates it is traversed by very delicate network of filaments. If at the moment of coagulation a reticulum of thick fibrillæ is seen, we may be sure that we have indications of an inflammatory lesion, and the modifications in the processes of coagulation are due to the extent and intensity of the inflammation. Pyrexia is not accompanied by any appreciable modification of the fibrine; but when fevers are complicated by inflammatory process there are such modifications. In small-pox they only appear with the suppurating fever; in scarlet fever and scarlatina the fibrine only augments at the period of desquamation. So again, in typhoid and intermittent fevers the so-called phlegmatic characters only appear when the disease is complicated by inflammation.

When cachectic conditions are not the results of chronic diseases, which bring about inflammatory lesions, the reticulum of the pure blood generally remains invisible, or is obscure, notwithstanding the unusual abundance of haemato blasts. Examination by the aid of the solution already described, shows, however, that the fibrine is allied; in advanced cases one often observes the so-called "plaques cachectiques," due to the infiltration of the haemato blasts by a finely granular substance, which points to a qualitative change in the characters of the fibrine.—*Royal Microscopical Journal.*

GLEANINGS.

SURGICAL EXPERIMENTS UPON THE Dog.—Much light can often be thrown upon severe surgical operations by first attempting them upon some of the lower animals. Operations connected with the abdomen have been studied in this way with especial frequency. At the last meeting of the German Surgical Congress, Dr. Gluck, of Berlin, related certain experiments which he had made. He had removed the bladder, urethra and penis of dogs, and had sewed the ureters into an opening in the abdominal wall. The animals recovered and remained well and comfortable. He found, however, that when the ureters were sewed into the rectum, the operation would not succeed, and the animals died.

The same experimenter was successful in removing three inches of the sciatic nerve of a hen, and in substituting a piece of the sciatic nerve of another animal in place of that removed.

A VEHICLE FOR SALICYLIC ACID.—A pleasant and agreeable method of administering salicylic acid is as follows: Take Oswego corn-starch one tablespoonful, to be thoroughly rubbed up in several ounces of cold water. Add a quart of milk, set on the fire, and stir until the mixture has boiled sufficiently to become homogeneous. The addition of sugar and essence of vanilla or lemon will give a delicious blanc-mange. Twenty grains of the salicylic acid can be rubbed up in a mortar with a cupful of the blanc-mange, which may be eaten warm or cold. The acid taste is entirely disguised, and a medicine irritating to a healthy stomach can be safely administered in combination with a nutritious but light food to such patients as are in need thereof.—*Dyer, in Louisville News, Oct. 8.*

A NEW œsophagoscope, with which a person can view the lining membrane of the œsophagus, and perhaps catch a glimpse of the mucous membrane of the stomach, has been manufactured by a London firm recently, and has been successfully used by Drs. Morrell, Mackenzie, and others.

The part inserted into the œsophagus is composed of two narrow, flat, parallel bars, which are connected by rings. When the instrument is introduced, the bars lie close together. After introduction they are sprung apart, and a tube is formed. At the upper end they join at an angle with the handle. At this angle a large laryngoscopic mirror is affixed. By it the light is reflected down into the stomach.

PROCEEDINGS OF SOCIETIES.

Proceedings of the Miami Valley Medical Society.

THE Miami Valley Medical Society met in regular semi-annual session at Loveland, Ohio, June 7, 1881, at 10 o'clock A. M.

The President, Dr. E. J. Tichenor, of Lebanon, called the

meeting to order. The minutes of the last meeting were read and approved.

Dr. A. Morris, of Goshen, reported the death of Dr. T. Thacker.

On motion, Drs. Morris, Kennedy and Carmichael were appointed a committee to report suitable resolutions.

The following officers were elected by the society for the ensuing year: President, S. S. Scoville, Lebanon; Vice-President, A. Morris, Goshen; Secretary, W. A. Carmichael, Loveland; Treasurer, L. W. Bishop, Loveland.

Censors. { W. Wise, Wilmington.
 { L. Pompel, Cozaddale.
 { J. L. Combs, Boston.

The following gentlemen were elected to membership: Dr. S. J. Spees, Hillsboro; Dr. T. C. Quinn, New Vienna.

Dr. Wise, of Wilmington, reported a case of post-nasal catarrh, in a scrofulous subject, which lead to a lengthy discussion, participated in by Drs. Drake, Trimble, Spees, Stevens.

Society adjourned to 1:30 P. M.

The society was called to order at 1:30 P. M.; Dr. S. S. Scoville, the president, in the chair.

Dr. Darby, of Morrow, proposed a substitute for Mistura Glycerrhizæ Comp. or Brown Mixture as follows:

R.	Antim. et Potass. Trt.,	gr. iv.
Aq.	Camphoræ,	ʒ j.
Aq.	Fœniculi,	ʒ vij.
Liq.	Morph. Sulph.,	ʒ i.
Ext.	Glycerrhizæ,	ʒ vi.
Syr.	Simp.	—aa. ʒ vi.
Mucil.	Acaciæ, }	
Alcohol,		ʒ j.
Spts.	Nit. Dulc.,	ʒ i.

Dr. Darby recommends the above for its more elegant appearance and in consequence of its less liability to change by keeping. The formula was endorsed by the society.

Dr. Sidwell, of Wilmington, read a paper entitled, "Our Profession."

The society, on motion, tendered Dr. Sidwell a vote of thanks for his excellent paper.

The afternoon was spent in the discussion of various topics.

The Committee made the report on the death of Dr. Thacker, as printed below.

In the evening the society and citizens of Loveland assembled in the Presbyterian Church, where they were entertained by a lecture delivered by Professor Thad. Reamy, of Cincinnati; subject, BROKEN HEART. It is only necessary to say that the members of the society were *delighted*, and the citizens more than pleased, and request us to have *such lectures frequently*.

TRIBUTE OF RESPECT TO DR. TOWNSHEND THACKER.

Dr. T. Thacker, of Goshen, died of Typhoid Pneumonia, April 19, 1881, in his 62d year. He studied medicine with Dr. Isaac Thacker, now of Defiance of this State, and after attending one course of lectures, began practicing in Rochester, Warren Co., in 1842. The next year he moved to Boston, Clermont Co., where he remained a number of years engaged in regular practice.

In 1850 he graduated at the Medical College of Ohio, and soon after located in Goshen, where he continued to reside until the time of his death. He soon acquired an extensive practice and remained actively engaged in the work until the spring of 1869, when, on account of failing health, he retired from active practice and turned his attention to drug business. Many of his old patrons, however, still insisted on having the benefit of his services, and he did quite a large office and consultation practice.

In 1877 he disposed of his drug store, and, once more entering on the active duties of the profession, remained at his post until prostrated by what proved to be a fatal sickness.

Dr. Thacker was, in many respects, a man of more than ordinary ability. His knowledge of medicine was accurate and thorough, and extended to all its branches. In the natural sciences he was thoroughly at home. His knowledge of the languages was remarkable for one whose life lay in another direction. He seldom met a patient of any nationality with whom he could not communicate in his native tongue, and it has been said by those qualified to speak, that his knowledge of Greek and Latin was more critical than that of many of the professors in our colleges. Yet, with all these attainments, he was so diffident, and had such a dislike for anything like display, that it was only in the freedom of private conversation that one fully realized his nice qualities of mind. As a practitioner he was judicious, safe and conscientious,

giving his patient the benefit of his best skill and judgment; noted for his coolness in the midst of excitement, and fertile in his resources to meet emergencies. In his intercourse with his patients he was kind, patient and attentive; toward his brother practitioners just and honorable. He was especially considerate of the tyro in medicine, and the new beginner could safely call him in consultation without fear of undue advantage being taken of his inexperience, and could rely on his counsel and assistance.

In all his relations to society he was upright and honorable—in a word, he was, in the true sense of the term, a Christian gentleman.

Dr. Thacker has been a member of the Miami Valley Medical Society since its first organization, and was at the time of his death its vice-president.

Therefore, for the purpose of expressing the esteem and respect in which our deceased brother was held by its members, be it

Resolved, That in the death of Dr. Thacker we are called upon to mourn the loss of an esteemed and zealous member of our society and profession, and the public an upright and worthy citizen, whose many virtues, goodness of heart, and gentlemanly bearing, fully entitled him to the respect and esteem of the community in which he lived, and all who knew him personally;

Resolved, That as a mark of respect for the deceased and of our deep sense of the loss which the public and the profession have sustained, that a copy of the foregoing be placed on the minutes of this society;

Resolved, That a copy attested by the secretary be transmitted to the family of deceased as an expression of our sympathy and condolence.

Resolved, That an attest copy be forwarded to the editors of the CINCINNATI MEDICAL NEWS, *Lancet and Clinic*, and the Clermont Co. papers, with a request that they would cause them to be published in their papers and journals.

A. MORRIS,
J. C. KENNEDY,
W. A. CARMICHAEL,
W. A. CARMICHAEL, Sec'y. } Committee.

Loveland, O., June 7, 1881.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper *out of the office*, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

ATTEMPT AT ASSASSINATING THE PRESIDENT OF THE UNITED STATES.—Of course all of our readers are aware of the dastardly attempt to take the life of President Garfield, made on the morning of July the 2d, by one Guiteau, a villain, who had been disappointed in obtaining a paltry office, for which he was not qualified. The whole country, in fact, the whole civilized world was shocked by the act, and is still in a terrible state of suspense as regards the final recovery of the President from the terrible wound received.

Although the readers of the MEDICAL NEWS have read the newspaper accounts of the shooting of the President by Guiteau, in the Baltimore and Potomac Railroad Depot, at Washington, we have no doubt they will be interested in the recital of Dr. Townshend, published in the Maryland *Medical Journal*. Dr. Townshend was the first physician called to the President after the infliction of the wound, and, according to the Code of Ethics, and according to every principle of honor recognized among

gentlemen, should have had charge of the case until the physician of the President, Dr. Baxter, arrived; but, in some way, which will no doubt be explained in due time, he was superseded by a Dr. Bliss, of Cundurango memory, who still has charge of the case.

Dr. Townshend's account is as follows:

WASHINGTON, D. C., July 6, 1881.

Editors Maryland Medical Journal:

GENTLEMEN—I have your letter of the 4th, asking a statement of the President's case so far as my observation went. So much has been said and written on this subject that I fear but little interest will attach to anything I may recount touching my experience therewith. I was called to the President's side about 9:25 o'clock, on the morning of the 2d inst., some four or five minutes after the wound was received. When I found him, the shock had just resulted in a faint, and slight vomiting had occurred. Pulse at wrist was not discernible. His head had been considerably elevated. I immediately ordered his head lowered, and prescribed aromatic spirits of ammonia and brandy. As soon as this medicine arrived I administered a dose, and it effected an immediate revival. Chief Engineer Cronin, of our fire department, came in at the moment, told me he had a fast horse at the door, and asked me what he could do. I instructed him to drive as quickly as possible for Dr. Baxter, who, I understood, was the President's physician. I asked the President, then, where he felt the most pain, to which he replied: "In the right leg and foot." I asked him the character of the pain, and he replied that it was a prickling sensation. I thought this at the time was a premonitory symptom of paralysis, and judged there must be some injury to the spine. The President was, at the time, lying on his back; and, as I understood that the wound had been received in the back, I asked him if he could turn over. He responded, promptly, "Oh, yes, sir;" and, suiting the action to the word, did turn upon his face. This action on his part reassured me somewhat, and I immediately went to work to get at the wound. His clothing had been loosened from the front; and, lifting his shirt, I found where the bullet had entered. The wound was located about two inches to the right of the fourth lumbar vertebra, between the tenth and eleventh ribs.

I made only a hurried examination at that time, not attempting, of course, to trace direction taken by the bullet, but merely to ascertain locality and nature of wound. My impression at this time was that the wound was necessarily a fatal one.

I had the President turned upon his back again, and he inquired what I thought of his condition. I gave him an encouraging reply, of course, but I fear he was not much encouraged.

Noticing that the crowd was continuing to press around and in upon the wounded man, I deemed it best to have him removed to some more private apartment, and accepted the offer of Supt. Sharp of a private and comfortable room on the floor above in the depot building. I then had him placed upon a mattress and conveyed up stairs. Upon getting him into the room on the second floor, I noticed signs of returning exhaustion and again administered a stimulant. This revived him, and he requested to be taken to the White House. Shortly after this time Drs. Purvis, Bliss and Woodward arrived, and, acting upon the President's request, a hurried consultation was held, and it was decided to remove him to the Executive Mansion. He was accordingly carried down, placed in an ambulance, and Dr. Bliss and myself accompanied him to the room in which he now lies at the White House. He was considerably exhausted upon arrival at the White House, and complained of severe pain in the right hypogastric region, and a disagreeable tingling sensation in both lower extremities. Upon consultation, a hypo-

dermic injection of one-sixth of a grain of morphia and one ninety-sixth of atropia was decided upon and administered. It was then decided not to disturb the President further until three o'clock, at which hour another consultation was ordered, and it was expected that an attempt would then be made to locate the bullet. At three o'clock he was found to be still suffering much pain. Another hypodermic injection of morphia and atropia was given and examination adjourned until the next consultation, which was called for seven o'clock. In the meantime lime water and milk was administered to allay nausea.

Just previous to the time set for next consultation Mrs. Garfield arrived, and her being introduced into the President's room delayed proceedings until eight o'clock, when an attempt was made to trace the ball. Surgeon-General Wales, of the navy, made the examination and found, by introducing his finger, that the ball had entered the body about two inches to the right of the fourth lumbar vertebra, between the tenth and eleventh ribs, fracturing the upper edge of the eleventh rib and passing through the lower portion of the liver. It could not be traced further. Another consultation was called for seven o'clock in the morning, but upon a visit made at eleven o'clock that night, I found his symptoms had grown alarming. Pulse was 158, respiration 35, and temperature 96½. We all thought, at that time, that the President could not live until morning. In the morning, when the consulting board convened, we found a great change for the better. The President was still suffering from pain in the lower extremities, and another injection of morphia was administered.

He continued to grow better during the day, and I understand his favorable condition has kept up since.

That was the last time I was called in consultation. Yours, very truly,
212 4½ Street. SMITH TOWNSHEND, M.D.

The reason of Dr. Townshend's dismissal from the case, when it rightfully belonged to him until the arrival of Dr. Baxter, the President's physician, will no doubt be investigated at the proper time, as it should be. Dr. Baxter was out of the city at the time of the attempted assassination, but presented himself at the White House on the second day, we believe, in order to take charge of his patient. He met Dr. Bliss and asked to see the President. Bliss forbade his entering the room where the President was lying, and when he explained that he was the President's physician, and had called in consequence—having been away when the accident happened—Bliss, using some very insulting remarks, ordered him away.

In a recent issue of the *Medical Record*, of New York, is an interesting communication by Dr. Faneuil D. Weisse, Prof. of Practical and Surgical Anatomy, devoted to some surgical reflections and anatomical observations bearing upon a possible course of the bullet that wounded President Garfield. It is illustrated by a cut, exhibiting the external appearance of the wound. All of our readers are aware that the bullet from the assassin's pistol did not pass through and out of the body, but, up to the present

times, continues lodged in the body, and it has not yet been demonstrated positively at what point it is located. The conjectures are numerous as to its location, some of which seem very plausible. Nor is it certain yet just what organs were injured, and especially whether or not the bullet passed through any part of the liver. At first, the physicians in attendance had no doubt but that the liver was wounded, and some thought that the bullet was lodged in it. But, at this time, many are of the opinion that it has escaped unhurt.

As the experiments made by Dr. Weisse, and described by him in the article in the *Record*, to which we have alluded, and the reflections and inferences founded upon them will be interesting to our readers, we take the liberty to quote largely. Dr. Weisse, after quoting the bulletins issued by the attending physicians, from the time of the wounding to July 5th, says:

Besides these official bulletins, it had been stated, prior to July 4th, that the wound was located between the tenth and eleventh ribs, four inches to the right of the median line of the back; that a finger introduced into the wound had felt that the eleventh rib was fractured; that at another exploration the finger had felt the substance of the liver; that a probe had been passed in a distance of three inches. By the two latter examinations the direction of the wound was found to be downward and forward.

On July 4th I made a careful analysis of the symptoms that had presented up to that date, with the following result:

First.—A pistol-wound was located between the tenth and eleventh ribs, four inches from the median line of the back.

Second.—Upon receipt of the wound the President fell, or rather sank, down to the right, not losing consciousness.

Third.—Vomiting occurred as he fell, which had continued from time to time.

Fourth.—Within five minutes alarming failure of heart's action occurred.

Fifth.—Immediate pain of right leg and foot, of the nature of a prickling sensation.

Sixth.—Hemorrhage from wound, though not excessive.

Seventh.—Lowering of the temperature to 96.8° during shock.

Eighth.—Equable, almost normal standard of respiration.

Ninth.—Pulse fluctuations from slight causes.

Tenth.—Pains in legs and feet.

Eleventh.—Slight tympanites.

TABLE OF SEVENTY-FOUR HOURS FROM RECEIPT OF WOUND.

		TEMP.	PULSE.	RESP.
July 2,	9:25 A. M.....	Almost pulseless.
"	4:0 ⁰ P. M.....	96.8	124
"	11:00 P. M.....	99	124	20
July 3,	1:00 A. M.....	Normal.	120	Normal.
"	10:00 A. M.....	Normal.	114	18
"	11:00 A. M.....	Normal.	106	Normal.
"	6:00 P. M.....	Normal.	108	Normal.
"	10:30 P. M.....	100	120	20
July 4,	12:30 A. M.....	99.8	112	20
"	8:15 A. M.....	99.4	108	19
July 5,	8:30 A. M.....	100 5	114	24
"	12:30 P. M.....	101	110	24

Negative evidence existed which seemed to exclude injury having been inflicted to either of the following parts:

First.—An artery or vein of any considerable size.

Second.—The pleura, or lung.

Third.—The diaphragm (at a point where it is covered by pleura or peritoneum).

Fourth.—The right kidney.

Fifth.—The spinal cord.

Sixth.—The ascending colon, where not covered by peritoneum.

From the President's good general condition up to that time, there appeared a chance that the peritoneum and the organs invested by it—liver, stomach, small intestine, large intestine, and spleen—had escaped injury.

Of the symptoms developed up to July 4th, the fifth and tenth seemed to point to an injury of the right sacral plexus, as the area of distribution of the right great sciatic nerve was the first location of the pains, etc., while the pains of the left leg and foot would seem to have been developed subsequently.

The third and fourth symptoms, in the light of the localizing ones just stated, become contributive in adding weight to the possibility.

It remained to determine how a bullet, entering where the President was wounded, could escape injuring the right pleura, the right lung, the diaphragm, the peritoneum, the liver, the right kidney, the ascending colon, the small intestine, or the spinal column, and the life of the wounded person be spared, by deflection of the bullet in such a peculiar way as to reach one or more of the nerves that contribute to the sacral plexus.

It seemed to me possible that the bullet had penetrated the tissues superficial to the eleventh rib, impinged upon the rib with sufficient force to fracture it, which force was enough to turn the ball upon its axis, so as to point downward; thence it was deflected downward, forward and inward; that it had pierced a subpleural portion of the diaphragm (if at all), passed to the anterior surface of the transversalis fascia, posterior to the convex external border of the right kidney, passed through the adipose tissue behind the kidney and ascending colon, following the curve, downward and inward, of the plane of the anterior surface of the muscle-wall of the lumbar region; that it had passed into the iliac fossa, upon the iliac fascia, the posterior part of which it traversed in a direction downward and inward, till it reached the psoas magnus muscle; that it either perforated or passed posterior to the psoas magnus muscle to reach the sacral plexus of nerves, the trunks of which, one or more, it wounded.

The bulletins of July 5th strengthened my convictions that my theory had some ground of plausibility. To the symptoms which had developed up to July 4th, there had been added: 1st, muscular soreness of lower extremities; 2d, tenderness to the touch of the lower extremities. Of the symptoms of the 4th there had subsided: 1st, the vomiting at 8 P. M. on July 4th; 2d, the spasmody pains of lower extremities; 3d, less tympanites.

On July 6th I determined to investigate, by actual dissection, the possible track of the wound, whether, anatomically, such a course could be taken by a bullet. I obtained a British bull-dog revolver and the No. 44 cartridges, to determine what kind of a wound of entrance the bullet would make in a human body, its penetrating power at a distance of eight feet, and how much diminution of force would be effected by impact upon bone.

I found upon examination that, as a weapon, its inherent defects were such as to make it one which lacked precision in firing, and diminished the force of the ball. That the cartridge also presented certain peculiarities, which, when it was fired, would tend to diminish its penetrating power, and cause a great expenditure of its force upon impact upon any resisting surface.

I fired into a subject several times, and determined the wound of entrance and exit as both smaller than I expected.

I would here say that no attempt was made to so fire as to repeat the wound inflicted upon the President—that would be impossible—and then track the ball, so as to determine the course it had taken; nor was the attempt made to make the ball so penetrate as to take the possible course advanced.

A few shots enabled me to obtain all the information I wanted, viz.: that a bullet from a British bull-dog revolver suffers a great expenditure of force by impact upon a bone; that at the instant of its impact it turns upon its axis; that if its force is still sufficient to carry it on flatwise through the bone, it makes a large hole in it, splinters it, and carries the fragments before it into the tissues beyond; that if it simply fractures the bone, it is either deflected or stopped in its course.

At the point of wound the following conditions would favor the occurrence of deflection.

The eleventh is the most movable of all the ribs, being free at its anterior end and not steadied, as is the twelfth rib, by a muscle attached to its lower edge. The conditions favorable to deflection by impingement upon and fracture of this rib are: 1st, the mobility of the rib makes it like a hickory twig fixed at one end only, and its swaying upon impact would expend a good deal of the force of the ball; 2d, the external surface of the rib, being convex, tends to deflect a ball (of all bones of the body a rib probably deflects balls most often); 3d, if the eleventh rib is pushed inward from behind it rises anteriorly, and if a ball struck it with sufficient force to fracture it, it would be likely to turn the ball on its axis, and deflect it downward and inward, if already spent; 4th, the clothing of the President must also be considered as an element contributing to diminish the penetrating power of the ball before it reached the rib, but I have no data with reference to the clothing.

Had the ball been turned on its axis, and still had sufficient force for onward progression, it would have crashed through the eleventh rib, splintered it, and carried forward the fragments of bone directly into the viscera beyond. Deflected upward, it would have wounded the lung. Deflected forward along the rib, it might have passed into the abdominal parieties.

Dr. Weisse proceeds to state that he obtained a well-developed subject, six feet high, which he suspended so that the feet rested on the floor. A twelve-inch trocar, one-fourth of an inch in diameter, was made to enter the cadaver exactly at the point of the President's wound, penetrating at a right angle. The object of this was to pin the tissues and organs together, so as to steady them during the progress of dissection, which he proceeded to make. The account of the dissection, however, is too lengthy for us to copy it, and consequently we omit. We quote from the article further on as follows:

On the morning of Thursday, July 7th, I called upon Professor Frank H. Hamilton, M. D., and stated to him my theory of the possible deflection and course of the ball, giving him my reasons therefor. I then asked him to give me a detailed statement of all the facts in the case at the time of his visit to Washington. This he kindly gave me, and, among other symptoms, stated that the President had called attention to a peculiar sensitiveness of the skin of the right side of the scrotum. An injury to the ilio-hypogastric and ilio-inguinal nerves, which lie in the supposed track of the ball, according to the theory advanced would account for this peculiar sensation. Injury to the sacral plexus would also account for it. En-

couraged by Professor Hamilton, I repeated my dissections on July 7th, and he made an appointment to be present at a demonstration of the same on the following day. On July 8th, I obtained several cadavers resembling the physique of the President, and at two P.M., in the presence of Professor Frank H. Hamilton, M. D., Dr. George F. Shrady, and other professional gentlemen, I repeated the dissections, pistol-firing, etc.

The following letter explains itself:

My Dear Doctor—I have from the first sought to encourage you in your present line of study; not because I had by any means determined in my own mind the course of the bullet, but because it seemed proper to determine anatomically all the possibilities in the case. I also encouraged you to give your results to the profession through the secular press, in order that they might more promptly be subjected to the criticism or approval of medical men. Yours truly,

FRANK H. HAMILTON.

July 11, 1881.

A special application of the above anatomical observations to the appreciation of the President's wound must take into consideration his peculiarly robust physique.

The mass of fat located on the anterior surface of the posterior portion of the transversalis muscle and the quadratus lumborum muscle is probably, in the President's body—judging from his physique as pictured and described—from one and a half to two inches thick. This fat is continued, to a certain extent, in such a well-nourished organization, into the iliac fossa as well.

Given a bullet that has, by impact upon and fracture of the right eleventh rib, been deflected downward and forward into this layer of fat behind the external border of the right kidney, it is not difficult to conceive how, with its already expended force of progression, it could continue in the direction of least resistance through the adipose tissue, taking the inclined curve downward and inward of the anterior surface of the muscle-mass of the lumbar region into the iliac fossa; perforate the fascia in the sulcus between the iliacus internus and psoas magnus muscles; or perforate the latter muscle, and so reach the lumbo-sacral cord, or one of the sacral nerves in the right half of the pelvis, and thus inflict more or less injury to one of the contributing trunks which form the sacral plexus.

Here I would state that it was repeatedly observed by myself, and verified by Prof. Hamilton and Dr. Shrady, that a finger on the sacral plexus could be felt by rectal examination.

The fact that the ilio-hypogastric and ilio-inguinal nerves—usually the latter—distribute to the scrotum, and that they cross the possible track of the bullet, presents a most important element in the anatomical solution of the case. It will also be remembered that the skin of the scrotum is supplied from the sacral plexus by the perineal branches of the pudic and inferior pudendal branch of the lesser sciatic.

A difficult anatomical point to determine presents in the case of fracture of the eleventh rib, viz.: to appreciate the oblique line of pleural reflection from the costal wall to the diaphragm from behind upward and forward.

Had it been the twelfth rib that was fractured, there would be no difficulty in eliminating the inferior limit of the reflection of the pleura from the diaphragm, in case of deflection downward and forward.

For the purposes of this case we must consider the diaphragm as divided into a pleural and subpleural portion, relative to the line of reflection of the pleura from the circumference of the arched thoracic base to the superior surface of the diaphragm.

A man of the robust physique and ample chest of the President has a powerful diaphragm, with a large mass of subpleural muscular structure posteriorly. He has a large, heavy liver. His lungs are in a constant

state of distention, amounting to that of full inspiration of a less powerful physique. The upper edge of his right kidney is probably on a line with the lower border of his eleventh rib.

In walking, the weight of his liver would hang forward away from the posterior wall and still further tend to depress the diaphragm and increase the thickness of its subpleural portion.

In walking his pleural reflection opposite the vertical line of the bullet-wound would be at the eleventh rib, to the median line side of the wound of entrance.

After the President had recovered from the shock caused by the infliction of the wound, and symptoms of immediate danger had passed by, he commenced to improve and continued to improve until the morning of Saturday, July 23d. So constantly favorable and uninterrupted had been the progress until the time mentioned, that every one had begun to think that convalescence had commenced. The situation the Friday night previous was the most cheerful since the shooting. It began to be discussed among surgeons whether the members of the Cabinet could not see him on Saturday, and it was about settled that they might call on Sunday.

Suddenly there fell upon the universal satisfaction over the situation the rumor that the President had been taken with a chill, and that his symptoms were very alarming. It was ten o'clock Saturday morning when the unfavorable news began to spread in Cincinnati.

It seems that those watching through the night at the White House were looking for the usual satisfactory morning condition. The usual preparations for dressing the wound, and the examination previous to the daily bulletin, were in progress when a chill manifested itself, and became almost at once so pronounced as to cause the dressing of the wound to be postponed. The surgeons were at a loss to account for the sudden change. The delay in the bulletin made all who were waiting in the White House uneasy, and in a short time the facts of the presence of the chill became known from the sick-room and spread over the whole country. Dr. Hamilton, of New York, and Dr. Agnew, of Philadelphia, were telegraphed to, to come on at once. Those two eminent surgeons had been called in consultation soon after the President was wounded. Dr. Hamilton was given a special train at New York, consisting of a locomotive and coach, and was carried, at the rate of a mile a minute, to Philadelphia, where Dr. Agnew joined him at the depot, and

they were both taken on to Washington, reaching there in the evening.

The first news was that Dr. Agnew had performed a favorable operation to relieve a gathering of the pus, and that the surgeons were well satisfied with the result and the condition in which the operation had left the President. The examination which led to the operation had revealed the existence of a pus cavity, three or four inches within the wound. This was reached by an incision made about three inches below the opening of the wound. At a depth of a little less than two inches the cavity was reached, and the accumulated pus was discharged.

This cavity is described as a partial abscess, formed at an evident change in the direction of the track of the ball, and the cut now gives a more direct discharge from the deeper portions of the wound than the opening where the ball entered.

The operation was very quickly and skillfully performed by Dr. Agnew. The President did not desire to have ether administered, and the cut was made without it, though some external appliances were made use of to reduce the pain. After the operation the President's pulse went up to 112, but his general condition soon began to improve. He was kept most of the day under partial effect of narcotics, and the rest and quiet proved very beneficial.

The evening bulletin was regarded as quite favorable.

Dr. Hamilton said after it was issued that he regarded the President's condition as eminently encouraging, and that he could not express more in a long talk. Dr. Reburn said at the same time that he had regarded the President as back where he was before the relapse, with the exception that there had been a loss of strength. The case seems to be capable of being summed up in the statement that a small abscess has appeared and been successfully removed, without serious results to the patient.

Dr. Agnew stated to a Philadelphia newspaper reporter:

When I arrived at Washington I found the President looking very much the same as when I saw him last. I could see very little change in his general appearance. I regard the President now as in about the condition he was before the incidental feature of an abscess showed itself. The chances of his recovery are good, but he is not removed from danger. I think it possible that some change may take place in his condition later, which will indicate the location of the bullet. We can not tell any thing about it just now. There may be another chill, resulting from the condition he has just

passed through, but unless something transpires growing directly out of the presence of the bullet, there is no other complication looked for in his case. There were evidences of the old wound healing, but now he has another wound to heal besides. In this his wonderful stamina and vigor will be greatly to his advantage.

On his return from Washington a reporter called on Dr Frank H. Hamilton, when the following conversation took place, which Dr. Hamilton requested should be reported *verbatim*:

"How was it," asked the reporter, "that the deposit of pus which has caused all this recent trouble in the President's case was not discovered sooner?"

"It was discovered," answered the Doctor, "by the gentlemen in attendance, and that was the reason that they sent for Dr. Agnew and me. They would have opened the abscess themselves had they not thought the duty a very responsible one, and that it will require but a few hours for us to reach there."

"How does this complication affect the President's chance of recovery?"

"Not very materially. Of course, it produces an impression upon his system, but other similar obstructions and complications may ensue, and still not cause serious alarm."

"It has been suggested, Doctor, that a series of these abscesses or lateral pus pouches might be apprehended all along the track of the wound. Is that to be feared?"

"They are not likely to occur because this one has occurred, and the chances are more than equal that similar pouches will not be formed at all. This one had a special cause—the irregular projection of the fractured rib."

"Has anything further been discovered as to the course of the ball and its present position?" continued the reporter.

"Yes, I think that there has. The presumption seems to be, from certain indications, that the ball lies in the right iliac fossa."

"Did it enter the peritoneum?"

"It is doubtful whether it did."

"Did it enter the liver?"

"I do not think it did, although the evidence at first, as presented to the gentlemen in attendance, was very conclusive that it had entered the liver, and they are very accurate, experienced, and observing men. The suppuration will now be watched with great care, and every expedient, mechanical and otherwise, will be adopted to convey disinfecting fluid to the bottom of the sac and wound, and thus render innocuous the pus which may form."

"What do you think, doctor, about the chances of the President's recovery?"

"I still think they are more than equal, more especially since I have had an opportunity of seeing him."

"Is the President changed much since you saw him last? Does he appear to be weak?"

"He is not much changed in appearance; not so much as many patients would be under similar circumstances. Instead of being weak when he saw me in the room yesterday morning (I was standing at the head of the bed, the better to observe what was going on), the President put his hand back over his head to take mine, and said, cheerfully, 'How are you, doctor, this morning?' The stories of his weakness are, therefore, groundless."

"Could the President bear a second operation?"

"I think he could bear six operations or more of the character of the one just performed. That was only like removing a boil."

"What evidence has there been of pyæmia?"
"None at all."

At the time of our writing the President seems to be on the road to a final recovery. How long that will be, of course, it is difficult to state. Four weeks have elapsed since the shooting, and he is reported to be very weak. No one is admitted to his room but the physicians, nurses, and a few members of his family. His diet consists largely of fluids. He has taken, at times, a little solid food, but we believe it has generally been at the expense of an increase of fever. The pulse has been, if rightly reported, down to 86, but its usual range is 96 and 98, with evening exacerbations, when it mounts to over 100. The thermometric range is from 98° to 101°, averaging a tenth or so over 99°. The flow of pus continues uninterrupted, since Dr. Agnew's operation, with only temporary blocking up, which is immediately manifested by an increase of fever.

For present information, and for the purpose of reference hereafter, we will copy the dispatch which we find published in the *Gazette* of July 30th, Saturday morning. It is dated from Washington, July 29th, and was probably sent late in the evening from Washington. The *Gazette* reporter is Gen'l Boynton, a gentleman well known as reliable. The dispatch states: "The official bulletin issued at 7 o'clock this evening announces that the President has been comfortable and cheerful during the day, which fully expressed his condition and the progress since the bulletin of last night was issued. He rested well during the night, and the bulletin this morning showed that the rise in the pulse and temperature reported last night was due entirely to causes natural to the serious nature of the injury. The temperature continued normal until late in the afternoon, - the pulse ranging between 92 and 98. About 6 this evening the usual febrile rise appeared, but was not so marked as yesterday, and after the wound was dressed, there came a considerable abatement in the pulse and temperature. At 8 o'clock the pulse was 98, and temperature 100, a decline in the former, as compared with last night, of six beats, and in the latter of one and a half degree. The wound acted satisfactorily during the day, the pus discharging freely, and in a quantity that is regarded as amply sufficient.

"The President is gaining strength daily, a fact which is indicated by the decided improvement in his appear-

ance as well as his demands for increased quantities of food. To-day he asked the surgeons when he might expect to cease taking spoon victuals, and expressed a desire for substantial food. He is still kept on a liquid diet."

As a matter of interest to our readers, we publish in full an editorial from the *Lancet*, of London, of date of July 16, precisely two weeks after the attempted assassination of the President, on the subject. Of course the editorial is previous to the relapse of the 23d.

What has resulted in the condition of the President, shown by the chill on the 23d, confirms the statement of the *Lancet*, that he will not be out of danger until the wound has ceased to suppurate and has healed up. When the reports of the progress toward convalescence were the most favorable, we always replied to the questions of lay friends, as to the probabilities of ultimate recovery, that the President would not be out of danger until he was fully recovered. All medical men can understand that there is danger of absorption of pus or septic matter, with all of its consequences, so long as suppuration continues. Every day diminishes the danger, yet it will continue until the wound has healed.

THE ATTEMPTED ASSASSINATION OF PRESIDENT GARFIELD.

ALTHOUGH nearly a fortnight has elapsed since the occurrence of the dastardly attempt on the life of the President of the United States, and the daily papers have published pages of telegraphic reports of his condition, it is important to "make haste slowly" in drawing scientific conclusions from brief bulletins and scraps of conversation. The world moves so fast that it was almost at once decided by the public that if a fatal termination did not come on within the first week recovery was certain, and the interest in the case has notably flagged. We shall, doubtless, before long be in possession of all the scientific details of the case, and meanwhile we are compelled to speak with some hesitation upon the points of the case which seem worthy of attention. It is well to separate the ascertained facts of the case from the inferences drawn by those in attendance. The facts are few. The bullet is known to have entered the back on the right side of the spine close to the vertebrae, between the tenth and eleventh ribs, to have struck and slightly fractured one of the ribs, and to have been then deflected to the right. Its further course is mere inference so far as the telegraphic dispatches inform us. The primary shock was severe, and even alarming, but reaction set in, and for several days there was a freedom from all bad symptoms, but the temperature remained pyrexial, and the wound has suppurated. The renal and digestive organs have not shown any signs of injury. The most important inference that has been drawn is as to the course taken by the bullet. It is notorious that unless the course can actually be demonstrated, it is impossible even when apertures of entrance and exit are present, to assert what it has been in any given case, and the difficulty is still greater when only one aperture is presented. The further fact that by a superficial exploration it was found that the ball struck a rib and was deflected by it, renders it hazardous in the extreme to conclude that it passed forward

through the liver. So far as our evidence goes at present, there is nothing against the assumption that the bullet has passed along the rib and between the muscular planes of the abdominal wall; while the absence of free haemorrhage, of jaundice, and of peritonitis, although not conclusive, are facts strongly in support of this view. Further, if the ball has taken a course straight forward it must have pierced the pleura and diaphragm, as well as the liver and peritoneum, and there is no mention of any sign or pneumothorax, pleurisy, or injury to lung, in our present information. A wound of the liver, although greatly adding to the danger of the injury, by no means renders the case hopeless, as the sixty-two cases quoted in the *Medical and Surgical History of the War of the Rebellion*, and many other facts, show. And the special risks of such a wound—haemorrhage and peritonitis—may fairly be considered to be past. The dangers now to be feared are suppuration along the track of the bullet and blood poisoning. The former is caused by the bruising of the edges and walls of the wound, and by the irritation of foreign matters carried in by the bullet. We are told that this process is established, and that the discharge is so abundant that the dressings require removal twice in twenty-four hours. Much depends upon whether the suppuration is occurring all along the path of the bullet, and whether the outlet for it in its whole course is free and unimpeded. An abundant external discharge is no sure guarantee that the deeper parts are efficiently drained, and if the ball has really traversed the liver and peritoneal cavity—which we see no reason to believe—and is lodged in the wall of the abdomen, there is great risk indeed of pocketing of matter and suppurative peritonitis; while if the course was that suggested above the danger is rather of purulent infiltration between the abdominal muscular parieties. The persistent pyrexia, and the rise of temperature after the first week (to 102.8° on the tenth day), and the quickened pulse, are facts which are only too suggestive of some deep suppuration without free external vent, and are sufficient to cause anxiety, and entirely negative an unqualified hopeful prognosis. In reference to the question of blood poisoning, it has to be borne in mind that its cause is absorption of some product of decomposing animal material. This decomposition may be excited by foreign matters introduced at the time of the injury—clothes, etc., but not the bullet—or allowed access to the wound subsequently. Against such dangers, we are told, the surgeons in attendance are using the precaution of applying the “antiseptic dressing.” Unfortunately, this is a vague term; it may mean much or little. Certain it is that no external application of carbolized gauze would have any influence upon septic material deep in the wound, if such there be; and it is most misleading to the public, and unjust to Listerism, to assert that the mere use of an antiseptic dressing “will secure immunity” from “the decomposition of the discharges and their absorption into the circulation.” Gunshot wounds differ so materially from common accidental or surgical wounds, that we can not argue from the one to the other. The pain in the foot and ankles complained of by President Garfield must, no doubt, depend upon some injury to nerve-trunks close to the spinal cord, and it is well to remember that no nerve going to the foot arises higher than from the second lumbar nerve, which lies considerably away from the supposed track of the bullet. The questions connected with this problem are such that they can only be discussed with advantage when we are in fuller possession of the actual facts. Meanwhile we must refuse to join in the general sense of assurance as to President Garfield’s recovery, and would urge that such assurance is quite out of place until the temperature is persistently normal, suppuration has ceased, and the position and harmlessness of the bullet ascertained. That such a condition may speedily be established is our earnest hope, and the latest news is such as to encourage us in that hope.

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We manufacture a full line of fluid extracts, both officinal and non-officinal, making a specialty of the newer additions to the materia medica. By our process, we, as fully as is possible, exhaust the medicinal principles of the drug. By the strictest care taken in the selection of the crude material, and the most approved process of manufacture, operated by the highest skill, we succeed in producing fluid extracts which are unexcelled and rarely equalled for fullness and constancy of strength.

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Our pills are made entirely by hand, from the purest materials, and are sugar-coated by a method avoiding the use of heat above 90° F., without impairing either their efficacy or solubility.

For solubility, regularity of shape and beauty of finish they are excelled by none.

They are coated while the mass is yet soft, and will remain in same condition for years.

Special formulae made and coated to order, when desired, in lots of 3,000 or upwards.

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Lozenges are of use in pharyngeal troubles that yield to ordinary medication. By being slowly dissolved, the medicament they contain is brought into contact with the diseased mucous membranes, and hence a beneficial influence, local as well as general, is exerted. In this respect they are of inestimable value to public speakers, teachers, singers, etc., as they are handy to carry about the person. In certain diseases of children, in worms, dyspepsia, and in cases where it is desirable to carry the remedy about the person (as with travelers), the lozenge is a useful form for a medicament. We manufacture fifty formulae.

Special formulae made to order of any desired size, shape, color or flavor, when ordered in quantities of three pounds or more.

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Prepared with all the improvements which long practical experience and high medical authority can suggest, we offer them as combining with therapeutical value, agreeableness of taste, and elegance in appearance.

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Sanguis Bovinus Exsiccatus.
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Chlor-Anodyne.
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Acid, Hydrobromic Solution.
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Yerba Santa Lozenges, Etc., Etc., Etc.

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2
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OUR PEPSINE IS NOT SOLD IN BULK; the only way you can get the genuine is in original packages, as follows:

ONLY STYLES OF KIDDER'S SACCHARATED PEPSINE.

One ounce, four ounce and eight ounce oblong white flint glass bottles, with our name (Kidder & Laird) blown in the bottle, and sixteen ounce round (plain) bottles, all having on them our metallic caps and labels. THESE ONLY STYLES, THE GENUINE, are sold at 35 cents per ounce, in quantities less than a pound, and \$4 50 by the pound.

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KIDDER & LAIRD:

Gentlemen—I have used Kidder's Saccharated Pepsine in my own family with the most satisfactory results, and consider it one of the best preparations of the kind manufactured. Yours, etc.,

JAMES G. STEELÉ, *Chemist.*

SAN FRANCISCO, CAL., July 1st, 1873.

KIDDER & LAIRD:

Gentlemen—We find it very satisfactory, and will always purchase your brand hereafter. Yours, etc.,
LAFORE & KAHN.

CONNECTICUT.

BRIDGEPORT, CONN., July 15th, 1873.

KIDDER & LAIRD:

Gentlemen—The physicians have used it in prescriptions, and think it a valuable preparation, and as good as they ever saw, and will give it the preference in their practice. I have been using Hawley's for the last five or six years. Yours, etc.,

W. & E. SHELTON.

WILLINGTON, CONN., Sept. 29th, 1877.

KIDDER & LAIRD:

Gents—Your elegant preparation of Pepsine has been received. I think it superior to any that I have ever used in my practice. Yours, etc.,

W. L. KELSEY, M. D.

ILLINOIS.

EDGEWOOD, ILL., July 11th, 1878.

KIDDER & LAIRD:

Gentlemen—I find Kidder's Saccharated Pepsine a fine article and very effective in conjunction with other treatments in cases of cholera infantum; would recommend it highly in such cases. Yours, etc.,

JOSEPH HALL, M. D.

MILLSTADT, ILL., June 25th, 1878.

KIDDER & LAIRD:

Gentlemen—I have adopted the use of Kidder's Saccharated Pepsine in preference to any other. It has proved satisfactory in every respect. Yours, etc.,

F. H. KRING.

STANTON, ILL., July 30th, 1878.

KIDDER & LAIRD:

Gentlemen—Please send me one pound of Kidder's Saccharated Pepsine. This makes two and three-quarter pounds. I have used it mostly in prescriptions, and prescribed it in my practice, and find it a reliable article. Yours, etc.,

GEORGE BLEY, M. D.

STONE CREEK, ILL., June 15th, 1878.

KIDDER & LAIRD:

Gentlemen—I gave forty grains, in ten-grain doses, and it acted like a charm; shall use no other.

Yours, etc., L. HOBIE, M. D.

WELLINGTON, ILL., March 2d, 1878.

KIDDER & LAIRD:

Gentlemen—I shall be glad to avail myself of another supply when needed. I have tested it, and find it fully up to your representations.

Yours respectfully, DANIEL WESTON.

INDIANA.

GALVESTON, IND., July 8th, 1878.

KIDDER & LAIRD:

Gentlemen—I have given your Kidder's Saccharated Pepsine my careful attention, and find it a splendid preparation. I can recommend it in my practice on account of its good qualities.

Yours, etc., B. U. LOOP.

INDIANAPOLIS, IND., July 12th, 1878.

KIDDER & LAIRD:

Gentlemen—Have given Kidder's Saccharated Pepsine in a number of cases of dyspepsia; also given it to the physicians in this locality, who were well pleased with the superior quality of it.

Yours, etc., S. J. HILLMAN, M. D.

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FOR SALE AT ALL WHOLESALE AND RETAIL DRUGGISTS.

SULLIVAN, IND., July 11th, 1878.

KIDDER & LAIRD:

Gentlemen—I have prescribed your Saccharated Pepsine, and recommended it to several physicians, who have used it and pronounce it a first-class article.

Respectfully yours, H. MALOTT, M. D.

WATERMAN, IND., July 19th, 1878.

KIDDER & LAIRD

Gentlemen—I have ascertained from three doctors in my neighborhood that your Kidder's Saccharated Pepsine is better article than some of the more expensive preparations. Yours, etc.,

OLIVER LA TOURETTE.

LOUISIANA.

DELHI, RICHMOND PARK, LA., March 20th, 1878.*

KIDDER & LAIRD:

Gents—When in need of Pepsine will always order Kidder's in preference to all others, as I like it best. Yours very respectfully,

E. W. THOMSON.

MANSFIELD, LA., Jan. 31st, 1878.

KIDDER & LAIRD:

Gents—I know it to be an excellent remedy, and shall in future keep it always on hand, both for my practice and myself. Yours respectfully,

R. T. GIBBS, M. D.

MARYLAND.

ANNAPOLIS, June 20th, 1878.

KIDDER & LAIRD:

Gentlemen—Since the reception of your sample of Kidder's Saccharated Pepsine we have used no other. We consider it a first-class preparation. We have never heard anything to the contrary. We shall continue to dispense it unless well-founded objections are made, which we do not fear. We purchase from Messrs. Thomsen & Muth. Yours, etc.,

J. F. PERKINS & BRO.

BALTIMORE, June 19th, 1878.

KIDDER & LAIRD:

Gentlemen—I am using Kidder's Saccharated Pepsine with a great deal of satisfaction. I tested it with Scheffer's, and could not detect the least difference, and, in consequence, have had a number of pounds of yours, purchased from Thomsen & Muth.

Yours, etc., ISAAC R. BEAM.

BALTIMORE, June 19th, 1878.

KIDDER & LAIRD:

Gentlemen—Your Kidder's Saccharated Pepsine appears to be all you claim for it. I have not bought a grain elsewhere since I commenced using yours.

Yours, etc., C. A. GOSNELL.

BALTIMORE, MD., June 20th, 1878.

KIDDER & LAIRD:

Gentlemen—Your Kidder's Saccharated Pepsine has given good satisfaction. It is all you claim for it. Will hereafter use none but Kidder's.

Yours, etc., A. C. HUTHWELKER.

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Yours, etc., H. C. MOORE, M. D.

BALTIMORE, June 21st, 1878.

KIDDER & LAIRD:

Gentlemen—I have used Kidder's Saccharated Pepsine alongside Scheffer's, Boudault's, and others, as ordered, and have no reason to believe yours below the standard.

Yours, etc., JOHN SCHWARTZ.

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Each dose of two tea-spoonfuls, equal to 120 drops, contains:

Pure Oil.....	80 m. (drops).	Soda.....	1-3 grains.
Distilled Water.....	35 "	Boric Acid.....	1-4 "
Soluble Pancreatin, 5 grains.		Hyocholic Acid.....	1-20 "
Dose — Two tea-spoonfuls alone, or mixed with twice the quantity of soft water, to be taken thrice daily with meals.			

The principles upon which this discovery is based have been described in a treatise on "The Digestion and Assimilation of Fats in the Human Body," by H. C. Bartlett, Ph. D., F. C. S., and the experiments which were made, together with cases illustrating the effect of Hydrated Oil in practice, are concisely stated in a treatise on "Consumption and Wasting Diseases," by G. Overend Drewry, M. D.

In these treatises the Chemistry and Physiology of the Digestion of the Fats and Oils is made clear, not only by the description of a large number of experiments scientifically conducted, but by cases in which the deductions are most fully borne out by the results.

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May be described as partially digested oil, which will nourish and produce increase in weight in those cases where oils or fats, not so treated, are difficult or impossible to digest. In CONSUMPTION and other WASTING DISEASES the most prominent symptom is *emaciation*, of which the first is the starvation of the fatty tissues of the body, including the brain and nerves. This tendency to emaciation and loss of weight is arrested by the regular use of HYDROLEINE, which may be discontinued when the usual average weight has been permanently regained.

The ordinary so-called emulsions of Cod Liver Oil and other fats, whether *pancreatized* or not, merely remain in the form of a coarse mechanical mixture for a short time after agitation. The digestion of oil, having in no sense been artificially produced, still devolves upon those functional powers, the deficiency of which is the most prominent symptom in these cases.

HYDROLEINE is not a patent medicine or a secret preparation; the formula is on every bottle. Can be taken by the most delicate stomach; is immediately assimilated.

The permanence and perfection of the emulsion, and the extreme solubility of the HYDRATED OIL, solely prepared and sold by us under the name of HYDROLEINE, is shown by its retaining its creamlike condition as long as the purest Cod Liver Oil will retain its sweetness. Unlike the preparations mentioned, or simple Cod Liver Oil, it produces no unpleasant eructation or sense of nausea, and should be taken in such very much smaller doses, according to the directions, as will insure its complete assimilation; this, at the same time, renders its use economical in the highest degree.

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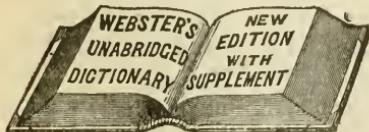
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Report from Bellevue Hospital, New York.

In *The Hospital Gazette* for February 6th, 1879 [page 108] Dr. E. Hochheimer makes a report from BELLEVUE HOSPITAL of a case of Infantile Paralysis, which was followed by an exhausting diarrhea—Speaking of the treatment, he says: "Her condition continued unchanged for the next three weeks; she was put upon a diet consisting principally of milk, but the diarrhea persisted in spite of opiates and astringents."

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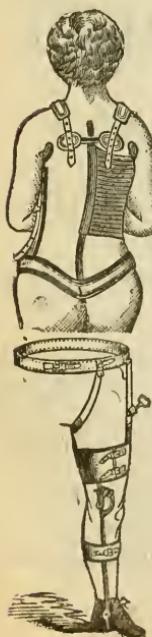
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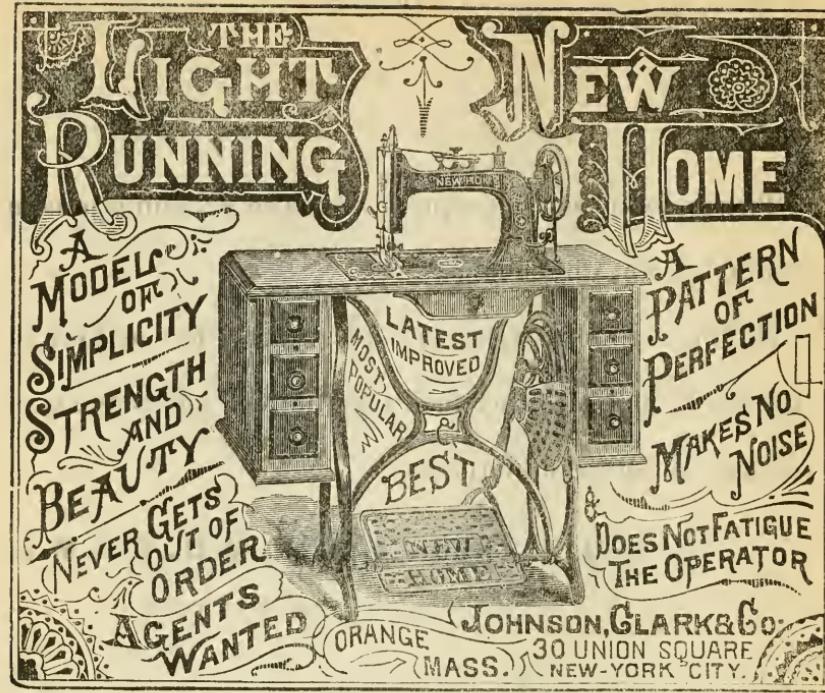
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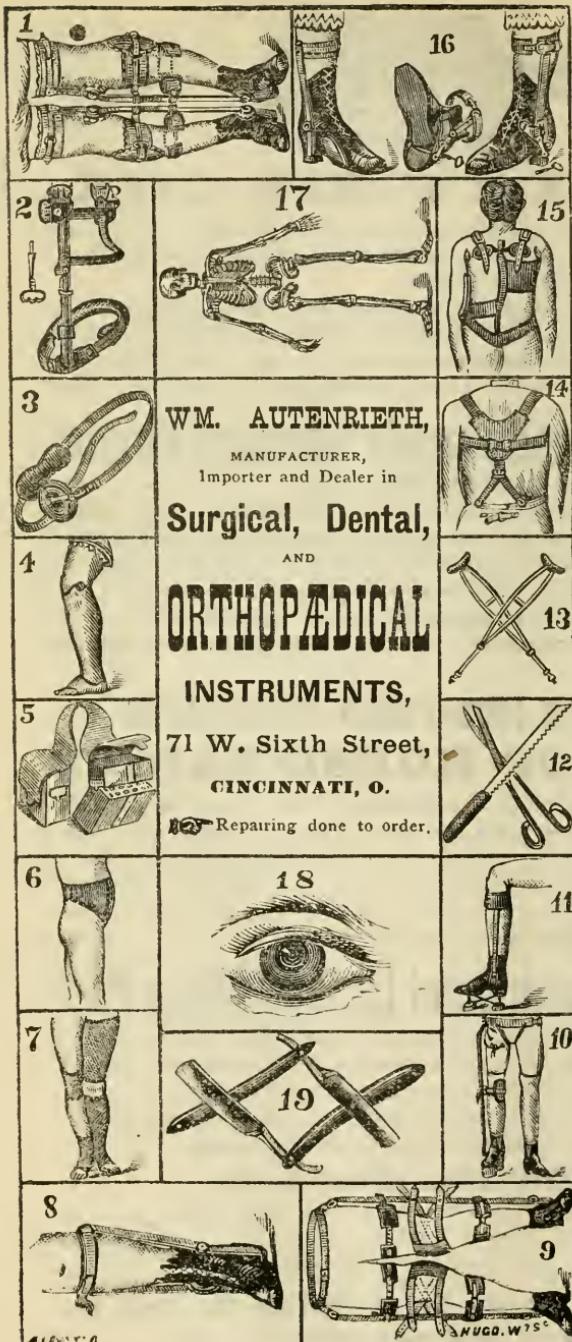
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